

PACIFIC PULP & PAPER INDUSTRY

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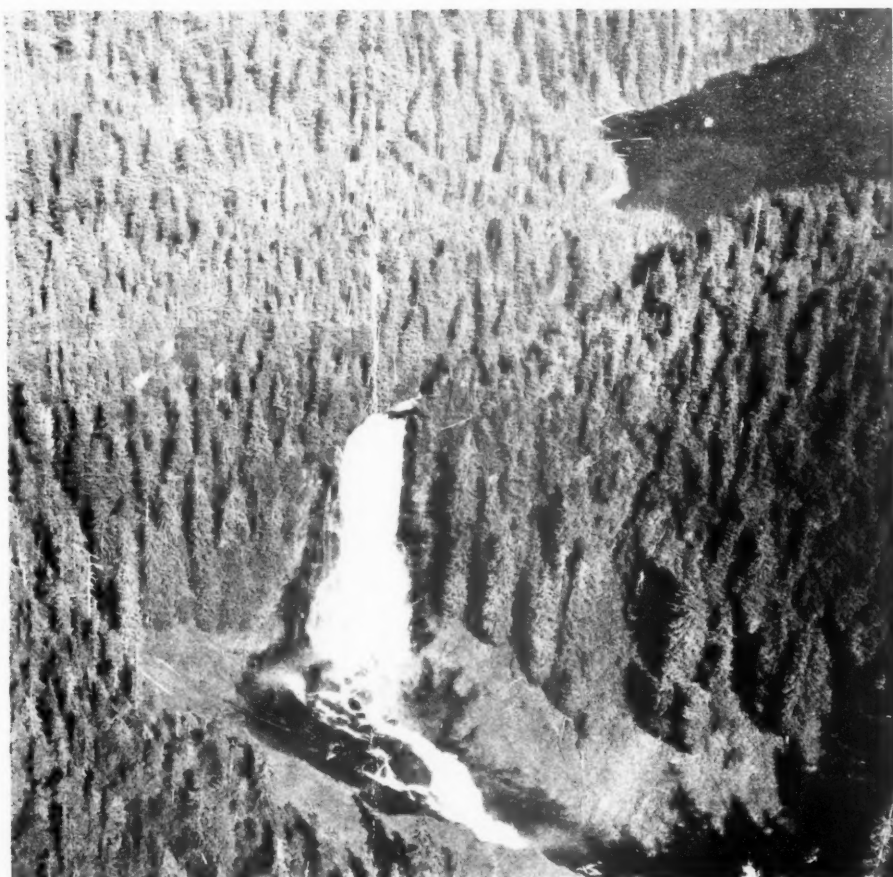
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OCT 27 1930

U. S. Department of Agriculture

Volume 4
Number 11

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U. S. Navy Alaskan Survey Aerial Photo

Waterfall and Timber, Baranoff Island, Tongass National Forest, Alaska

OCTOBER + 1930

Liquid **CHLORINE**

**Highest Value
Uniformity
Quality**



The TACOMA ELECTROCHEMICAL COMPANY is ideally located to render efficient service to the growing needs of the pulp and paper industry.

Modern shipping facilities under the direction of an experienced organization assures prompt and efficient deliveries.

We are in a position to supply promptly Liquid Chlorine and Caustic Soda from our Tacoma plant and other industrial chemicals manufactured by the Pennsylvania Salt Manufacturing Company.

*Acids
Alums
Aluminas
Caustic Soda
Liquid Chlorine
Bleaching Powder
Greenland Kryolith
Sodium Hypochlorite
Ammonium Persulphate*

TACOMA ELECTROCHEMICAL CO. TACOMA WASHINGTON.

A SUBSIDIARY OF THE PENNSYLVANIA SALT MANUFACTURING CO.

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Silence—

“That Machine isn’t shut down— it’s running”



SOME visitors recently called at a paper mill having a new Beloit machine completely equipped with Timken bearings and a chain drive in place of dryer gears. When they walked up to the machine they asked the manager “Why is the machine shut down?” The manager said, “The machine is not shut down, it is running at full speed.” The visitors were surprised when they noticed the sheet of paper coming through, because there was no noise about the machine whereas most machines produce quite a lot of noise. The modern Beloit machine completely equipped with Timken bearings and Beloit improved silent chain drive on the dryers in place of dryer gears is practically noiseless in operation.

This is but one of many modern features of the Beloit.

Write for details on the “Modern Paper Machine.”

The Beloit Way is the Modern Way

BELOIT IRON WORKS, BELOIT, WIS., U. S. A.

The BELOIT



* A Pusey and Jones machine built in 1914 for an eastern paper mill has been running continuously for 16 years. And while this machine is still in excellent mechanical condition, the owners have recently commissioned us to bring this equipment up to date.

With the redesigned machine this mill will have a capacity equal to the demands of the future—at less than half the cost of a new machine.

NOW—While money is cheap, is the time to increase your mill's capacity by modernizing obsolete equipment.*

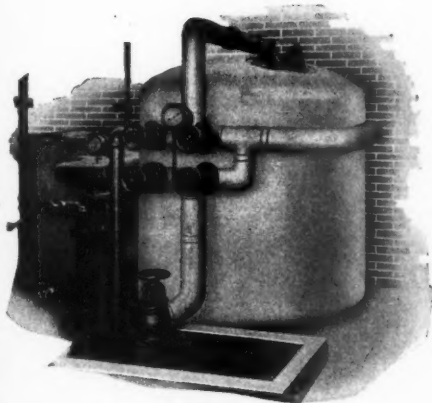
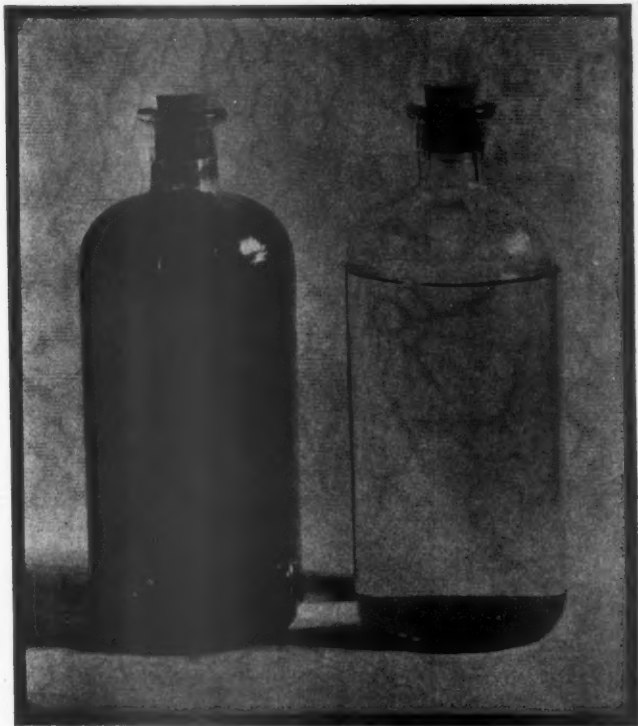
**Pusey
and
Jones**



THE PUSEY AND JONES CORPORATION, WILMINGTON, DELAWARE, U. S. A., BUILDERS OF PAPER MAKING MACHINERY; FOR NEWS : BOOK : KRAFT : BOARD : : Working For, and in Technical Co-operation With, the Forward-Thinking Minds of the Industry : Since 1848 : The MARK, shown here, will be found on Every Casting, and on every Other Part of major Importance, in every Machine produced by This Company : : It is the Mark of Our Own Technical Standards : : A mark of Superior Quality.

When writing to PUSEY & JONES CORPORATION please mention PACIFIC PULP AND PAPER INDUSTRY

Oily Condensate
is **Full of**
B.t.u's... *why not use them?*



Permutit Water Softener

Permutit

Oil Removing Filters

IF you're throwing away oily condensate, you're throwing away heat. And that's the same thing as throwing away money.

Large sums are being saved by users of Permutit Oil Removing Filters, because they feed *hot* condensate—converted into clean, oil-free distilled water—back into the boilers. In some cases the savings run as high as five tons of coal every day.

Permutit Oil Removing Filters deliver oil-free feed water at a cost less than one cent per 1,000 gallons. They invariably save their own cost in a few months' time. They are simple to operate, occupy little floor space, and are guaranteed to take all oil out of water—whether in suspension or emulsion.

Send for the free booklet, "Saving Fuel and Repairs with Oil-Free Feed Water." It may bring you some helpful ideas—without obligation, of course.

The Permutit Company

440 Fourth Avenue, NEW YORK

Manufacturers of all types of Water Softeners and Sand Filters. Iron, Oil and Manganese Removing Filters. Continuous Boiler Blow-off Equipment. Ranarex CO₂ Indicators and Recorders. Other Power Plant and Water Treating Specialties.

Twenty-three branch offices throughout the U. S.

1855 • SEVENTY-FIFTH ANNIVERSARY • 1930

From handwheel to disc, this valve promises years of service

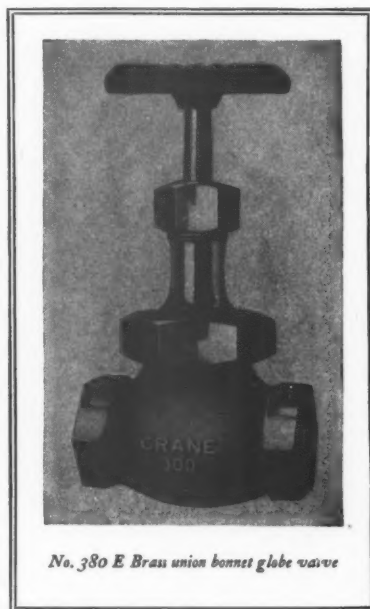
1

The special Cranite disc with which the No. 380 E globe and 381 E angle brass union bonnet valves are equipped makes them unusually efficient in controlling steam working pressures up to 300 pounds at 500 degrees, as well as air, gas, oil, and water. For this disc, made in standard dimensions, is of special asbestos composition. Years of experiment and service have proved it capable of keeping the valve tight under the most rigorous conditions.

Equal care has been shown in choosing materials for other parts of these

valves. The bodies and bonnets are of brass; the union bonnet rings and packing nuts are of forged brass; the stems are rolled bronze; seats of Crane nickel alloy; the handwheels, malleable iron.

Heavily built and correctly proportioned, these valves promise years of service under the most arduous conditions . . . and live up to them! Complete information is given in circular No. 220; write for it.



No. 380 E Brass union bonnet globe valve

Valves



CRANE



Fittings

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
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When writing to CRANE CO., please mention PACIFIC PULP AND PAPER INDUSTRY.

PACE SETTERS



THE
MOST
EFFICIENT
MACHINES
OF THE
INDUSTRY

PORT TOWNSEND . . . World's Largest Kraft Machine

"Impractical", was the general verdict when Port Townsend's 251" kraft machine was first proposed. But with indomitable pioneer spirit, the National Paper Products Company's enterprise and Bagley & Sewall's resources carried through. And now, for more than a year, this mammoth machine has been turning out an immense tonnage of kraft that meets the highest tests known to the industry,—a true pace setter.

251 inches across the wire! 44 dryer rolls 60 inches in diameter! An eight roll calendar stack with a bottom roll 32 inches in diameter! Four felt dryers 48 inches, and press rolls 34 inches in diameter! These are figures that command respect, when one considers the smooth, perfect functioning of the machine.

It isn't mere size that makes a pace setter. Performance, efficiency, quality, profitable production,—all enter into the picture. The surest guarantee of these factors is the simple emblem above,—"Designed and Built by The Bagley & Sewall Co."

The Bagley & Sewall Co.

Watertown, N. Y.



GRIEF AND GRAVY

HARDSHIP AND "GRIEF", ALWAYS THE MEAGER FARE OF THE PIONEER, HAVE FACED THE BUILDERS OF THE PACIFIC PULP AND PAPER INDUSTRY. NO TRAIL HAS MARKED THE WAY, THE LEADERS HAVE BEEN GUIDED BY FAITH AND COURAGE ALONE. BUT THE STRUGGLE HAS CLEARED THE WILDERNESS AND FOUNDED A STRONG AND GROWING INDUSTRY, HAS LED THE WAY THROUGH STARVATION YEARS TO SUCCESS AND GRAVY AND PROFITS. THE GROWTH OF THE RECENT PAST AND THE PROMISE OF THE FUTURE ARE A TRIBUTE TO THE WEST.

TO THE PIONEER MILLS OF THE COAST GREAT WESTERN SUPPLIED CHLORINE. VITAL THEN AS NOW, THE SUPPLY WAS UNFAILING, THE PRODUCT DEPENDABLE. TO THE GROWING INDUSTRY GREAT WESTERN OWES INCREASING PROSPERITY, AND CONTINUES TO PROVIDE PRODUCT AND SERVICE OF UNFAILING RELIABILITY.



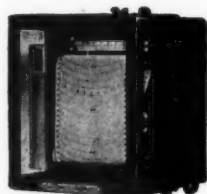
**GREAT WESTERN
ELECTRO-CHEMICAL
COMPANY**

SAN FRANCISCO
PLANT: PITTSBURG, CALIF.
SEATTLE: 514 FOURTH AVENUE



There's More Information—

In ONE Chart Record *than a week's batch of ordinary reports.*



Strip Chart Recording Instrument; suitable for installation where it is desired to obtain continuous operating records over a period of several days or weeks.

To meet present day demands for greater operating economy and at the same time anticipate future production conditions, calls for careful, accurate analysis of existing operating methods and equipment.

This analysis must be based upon FACTS . . . such as those provided automatically by BRISTOL'S Recording instruments . . . concise accurate chart records of daily or weekly operating conditions that leave no room for doubt.

Whether it be temperature, pressure, speed, humidity, electrical condition, power consumption or some other condition of operation . . . Bristol's Recording Gauges, Thermometers, Pyrometers, Voltmeters, Ammeters, Wattmeters, etc., give the complete story.

Bristol's field service engineers will gladly suggest the instruments that will give best results. Write or wire for consultation. No obligation.



Round Chart Instrument furnished with choice of 24-hour or 7-day clock movement --to give complete daily or weekly records.

THE BRISTOL CO., Waterbury, Conn.

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BRISTOL'S

Recording Instruments

WHAT DO WE MEAN by "CONTROL"?

There is no device, process or precaution known to science which we do not employ in our laboratories to insure perfection in our dyes.

To mention but a single instance—we maintain "control laboratories" in each of the different departments through which a batch of dyes must pass. Here, results are checked and rechecked over and over again—and comparisons made with a "control sample" which represents the exact result to be obtained.

Rigid control of production means rigid adherence to a standard of quality which brooks no compromise. That is why National Dyes maintain the same high quality today, tomorrow and always.

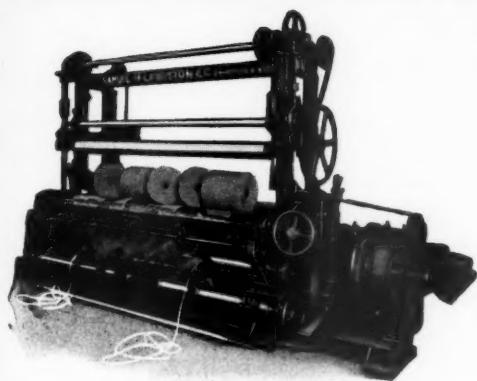
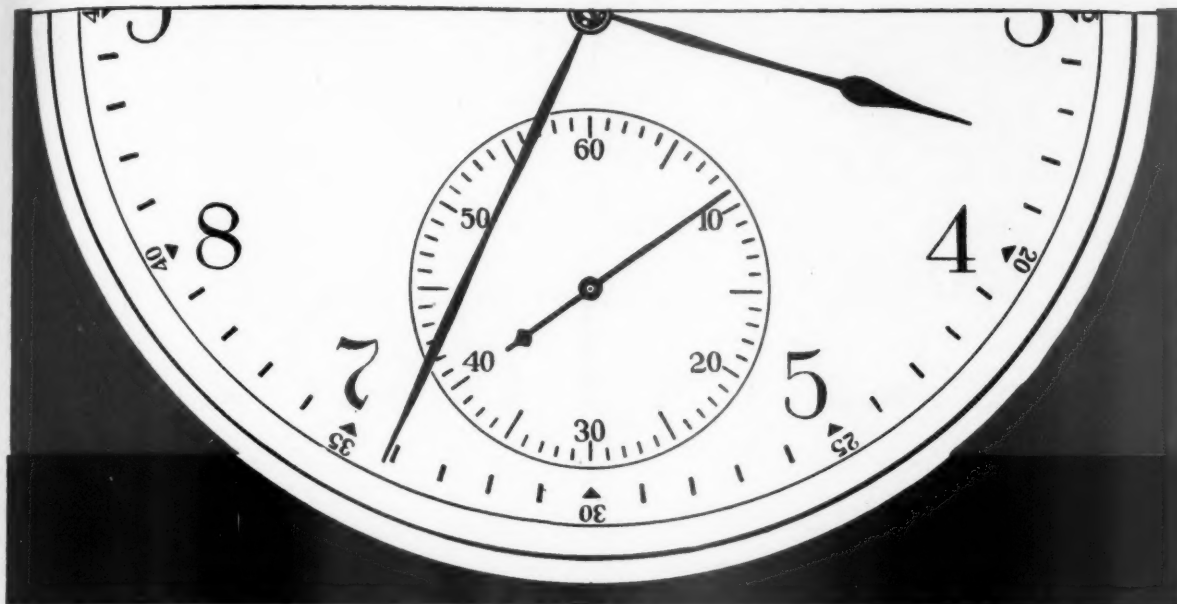
NATIONAL DYES



NATIONAL ANILINE & CHEMICAL CO., INC.

40 Rector Street, New York, N. Y.

CHICAGO - CHARLOTTE - BOSTON - PHILADELPHIA
SAN FRANCISCO - PROVIDENCE - TORONTO



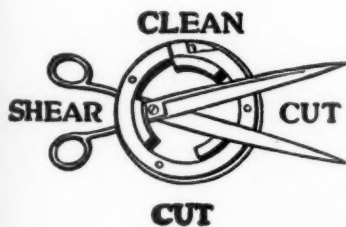
TIME OUT

Are repairs, adjustments, slow cutter set-ups raising the cost of your slitting and winding? Then you need a Langston! Performance records from dozens of users prove that Langston Slitters and Winders not only produce superior rolls but that they lower production and maintenance costs.

We'll be glad to show you these records, and tell you more about Langston Slitters. Just drop us a line—today.

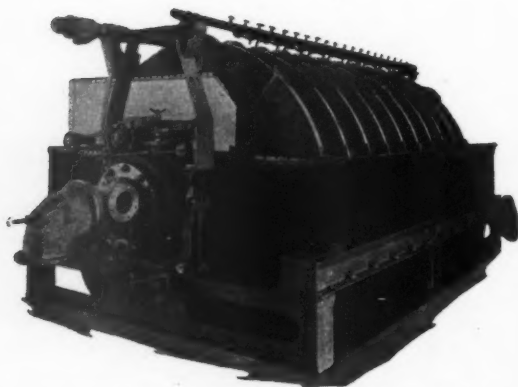
SAMUEL M. LANGSTON COMPANY

Camden, N. J.



LANGSTONS SLITTERS

Who Said Cloth Life Isn't Long?



American Disc Type Unit Showing Water-Set Dischargers



Oliver Drum Type Unit Showing Roll Discharger

OLIVER United Units are setting some excellent cloth life records. For example:

In a Louisiana Paper mill, Monel cloth on Oliver Kraft Deckers is still going strong after more than two years steady service.

In a Massachusetts mill, similar cloth on Oliver Deckers handling old paper stock, is making an even better record.

In a New York State mill, an Oliver Lime Mud Filter, equipped with Monel, has already shown better than three years cloth life.

Cloth life with Olivers is long because nothing mechanical scrapes or even touches the cloth. A roll picks up the sheet clean. With Americans, water jets discharge the stock by lifting and then curling it off the cloth.

Translate this long cloth life into dollars and cents. It provides one more reason why handling stock on Oliver United units is low-cost handling.

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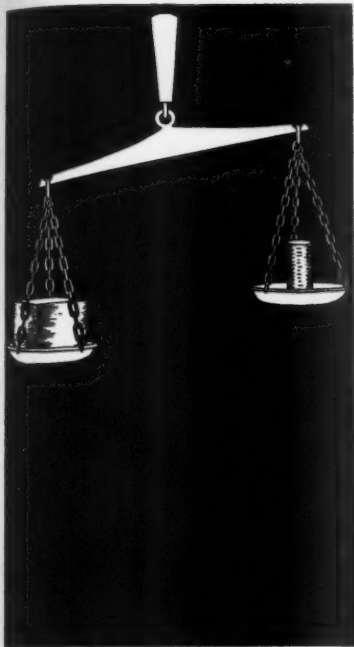
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When writing OLIVER UNITED FILTERS INC., please mention PACIFIC PULP AND PAPER INDUSTRY



KENWOOD TANNED BOARD FELTS ARE BOUGHT BECAUSE OF THEIR LOW FELT COST PER TON

Performance and performance alone determines the worth of a board felt. Has it the strength for the hard pull as well as the openness for maximum water removal? Has it the stamina for high speed—the fundamental character for a long service life—the smooth surface quality results require?

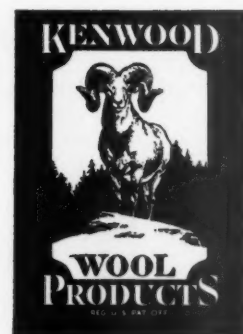
Kenwood Tanned Board Felts (Tops, Bottoms and Presses) have demonstrated their desirability on the sound dollar and cents basis of "lower felt cost per ton".

The qualities that signalize the superior performance of Kenwood Board Felts are attributable to the Kenwood policy of progressive scientific development. Kenwood pioneered the one-sided board felt. The same research service developed the patented Kenwood Tanning processes which protect the felt from the deteriorating effects of acids. The third major contribution is the new method of yarn construction which, while not adding to the weight or size of the yarn, contributes very definite advantages in strength and increased openness.

F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, N. Y.

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA





**"New—but
tried and proved"**

THE LINK-BELT TIMKEN Anti-Friction Ball and Socket PILLOW BLOCK

Designed, built and backed by Link-Belt, this ball and socket pillow block has already established an enviable reputation.

Rugged, simple in construction and capable of many years of satisfactory service. Grease seals keep the grease in and the dust out. Simplifies the lubrication problem and reduces power losses to a minimum. Ideally suited to the needs of modern industry.

It is shipped carefully adjusted, filled with lubricant and ready for immediate use. Carried in stock—prompt delivery assured. Send for a copy of List Price No. 1235. Address nearest office.

LINK-BELT COMPANY

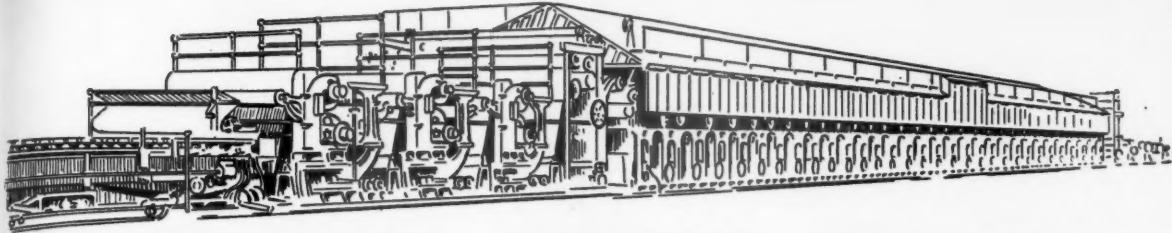
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Equipment for Handling Materials Mechanically and for the Positive Transmission of Power
CHICAGO, 300 West Pershing Road INDIANAPOLIS, 200 South Belmont Avenue PHILADELPHIA, 2045 West Hunting Park Avenue

LINK-BELT COMPANY, PACIFIC DIVISION
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PORTLAND, ORE., 67 Front Street OAKLAND, 526 Third Street

LINK-BELT

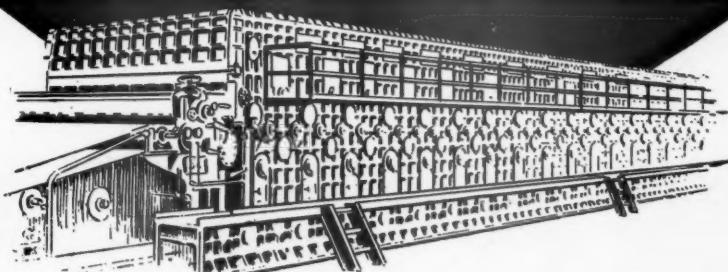
When writing LINK-BELT COMPANY please mention PACIFIC PULP & PAPER INDUSTRY



THE MINTON VACUUM DRYER

...Be not the first
by whom the new are
tried,
Nor yet the last
to lay the old
aside.
—Alexander Pope

RICE, BARTON & FALES
Incorporated
WORCESTER, MASSACHUSETTS
Paper Making Machinery Since 1837



When writing to MINTON VACUUM DRYER CORP., please mention PACIFIC PULP AND PAPER INDUSTRY.

WASTE! WASTE! WASTE!

WHY... Do you take a chance with your wire and felts?

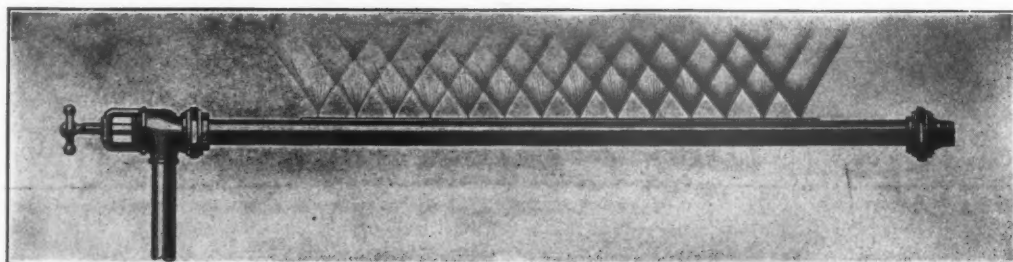
WHY... Do you wash the dirt onto your clothing?

WHY... Do you waste power pumping water for showers?

WHY... Do you wish the stock would not stick?

WHY... Do you not use the hi efficiency "RAINSTORM" shower pipe?

BECAUSE you are not familiar with
THE "RAINSTORM" SHOWER PIPE



*The Shower Pipe which does the work with 2/3 the pressure
and does it right.*

DON'T TAKE A CHANCE!

with loose pieces—sharp projections—from dirt discharge
on the wire

Get familiar with the "RAINSTORM" shower for your
paper machine

MANUFACTURED BY

THE SMITH & WINCHESTER MFG. CO.

SOUTH WINDHAM, CONNECTICUT

DEPT. MFP.

When writing to SMITH & WINCHESTER MFG. CO. please mention PACIFIC PULP AND PAPER INDUSTRY

Two G-E 150-hp. synchronous motors driving beaters, West Jersey Paper Company, Camden, N. J.



Synchronous motors are admirably adapted to driving—

Grinders
Jordans
Chippers
Vacuum Pumps
Rotary Screens

and, of course, motor-generator sets.

G-E Synchronous Motors on Beaters

GENERAL ELECTRIC has developed synchronous motors with high starting and pull-in torques for just such heavy-duty starting service as that of beaters driven either in groups, pairs, or singly.

You may specify synchronous motors for your beaters and enjoy the proved economies that result—economies made possible through power-factor improvement—economies reflected in decreased power bills, and through higher full-load efficiencies than can be obtained with other types of motors.

Remember, too, when you specify synchronous-motor drive for your beaters, that the reputation of G-E synchronous motors is built on dependability established by exact, specialized design and manufacture.

Put your motor problem up to the paper-mill specialist in the nearest G-E office. He will gladly consider it with you.



Motorized Power
—fitted to every need

107-65

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES



The New Williams Sheet Dryer

Dries Hand Sheets Same as Paper on Big Paper Machine



FEATURES—

1. *Electric Heat, Thermostat Control.*
2. *Sheet clamped under dryer canvas.*
3. *Drys sheet flat in 4 - 5 minutes.*
4. *Heavy polished copper top.*
5. *Large drying surface, 20x20 inches. Four 8x8-inch sheets may be dried at a time.*

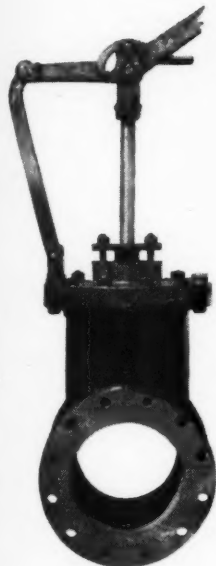
WILLIAMS APPARATUS COMPANY
WATERTOWN, N. Y.



When writing to WILLIAMS APPARATUS Co. please mention PACIFIC PULP AND PAPER INDUSTRY

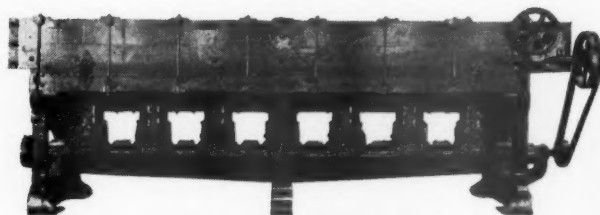
a **SERVICE** *—that is profitable to You*

as it embraces **QUICK DELIVERY, PERSONAL CONTACT and LOWER FREIGHT COSTS.** Take advantage of it by having your Pulp and Paper Mill Machinery built on the Pacific Coast by **SMITH and VALLEY**. . . .



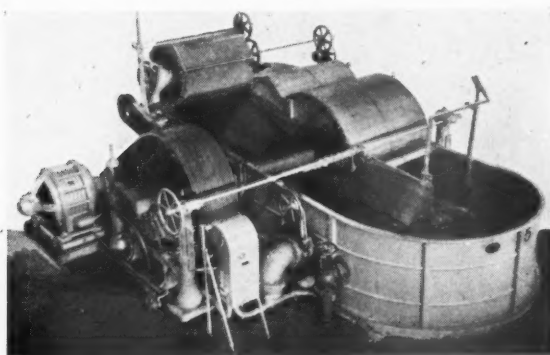
**REED
STOCK VALVE**

Single Acting
Plunger Type
Non-Clogging
Will not Stick

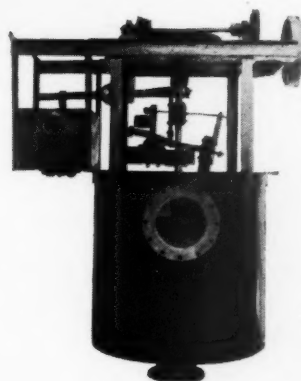


FLAT PLATE SCREENS

Noiseless—Efficient—Built for continuous and economic operation



Smith and Valley Hi Speed Beater—Built for any capacity required. Wood, Iron, Concrete or Metal lined tubs



**WARNER
EQUALIZER**

Designed to control
and Regulate all Stock
Consistency

SMITH and VALLEY SERVICE is Immediately Available on the Following Equipment—

Voith High Pressure Stock Inlet
Plug Valves
Niagara Beaters
Valley Laboratory Equipment
Wet Machines
Deckers
Barkers—Sizes 4, 5, 6 and 7 foot
Chippers and Rechippers
Chip Screens

Quick Opening Beater Dump Valves
Pulp Grinders
Jordan Engines
Paper Mill Rolls—all descriptions
Cylinder Machines
Cylinder Moulds—all kinds
Complete Wood Room Equipment
Special Pulp and Paper Equipment

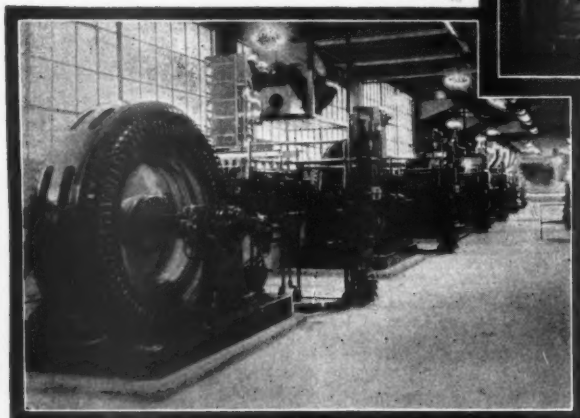
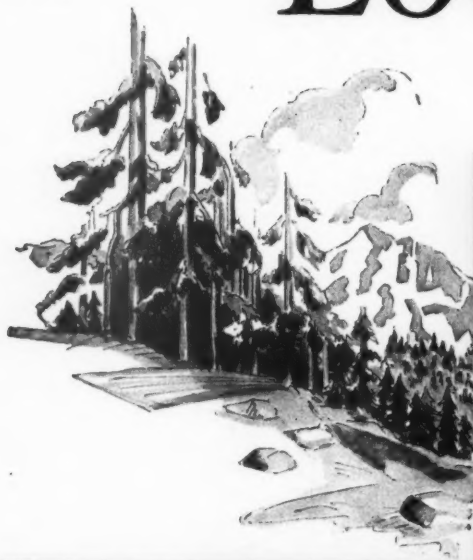
Smith and Valley Iron Works Co. *Builders of Pulp and Paper Mill Machinery* **PORTLAND, OREGON**

Eastern Manufacturing and Sales Division:
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Sales Agents: **PACIFIC COAST SUPPLY CO.**
San Francisco—Portland—Seattle

When writing to SMITH & VALLEY IRON WORKS please mention PACIFIC PULP & PAPER INDUSTRY

From LOG HAUL~UP



Westinghouse 1,000-hp. Synchronous Motors driving the grinders illustrated above.

Grinders at Washington Pulp & Paper Co., Port Angeles, Wash.

Right—Besters at National Paper Products Co., division of Crown Zellerbach Corp., Port Townsend, Wash., driven by Westinghouse CW Motors.



Rotary vacuum pumps at Washington Pulp & Paper Co., driven by Westinghouse Squirrel Cage Motors. Also equipped with Westinghouse Reduced Voltage Auto-starter.



to REWINDER

the correct motor drive is essential...

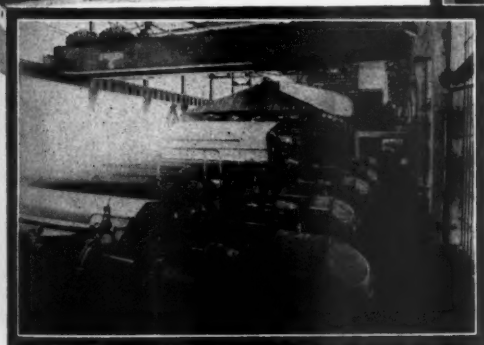
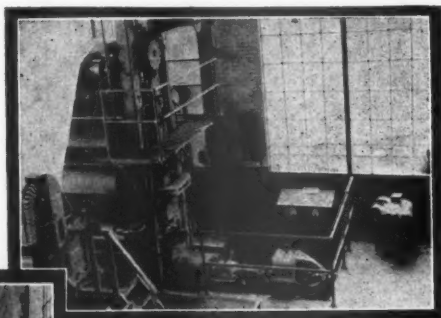
IN all steps of paper manufacture, reliable and effective electric motor drives must be used if production is to move on schedule. Electric drives, with the necessary speed reduction equipment and refinements of control, properly applied to pulp and paper mill equipment, will add greatly to the profitable operation of your mill.

There is a Westinghouse paper mill drive for every application in the paper mill. These drives are dependable, smooth and simple in operation,

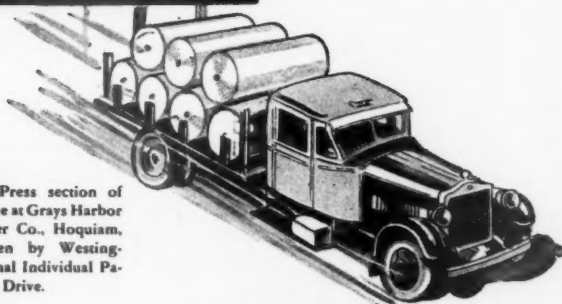
contributing to efficient production with minimum maintenance.

Many years experience and close cooperation with the paper industry, enable Westinghouse paper mill engineers to select electric motor drives and control, and, where necessary, the speed reduction equipment, to provide the most successful operating results in every type of pulp and paper mill. They can be of service to you in planning new mills, plant improvements and extensions.

Super-calender at the Consolidated Water Power & Paper Co., plant, driven by Westinghouse 75-hp., d-c. Motor, through Westinghouse-Nuttall Speed Reducer



Couch and Press section of paper machine at Grays Harbor Pulp & Paper Co., Hoquiam, Wash., driven by Westinghouse Sectional Individual Paper Machine Drive.



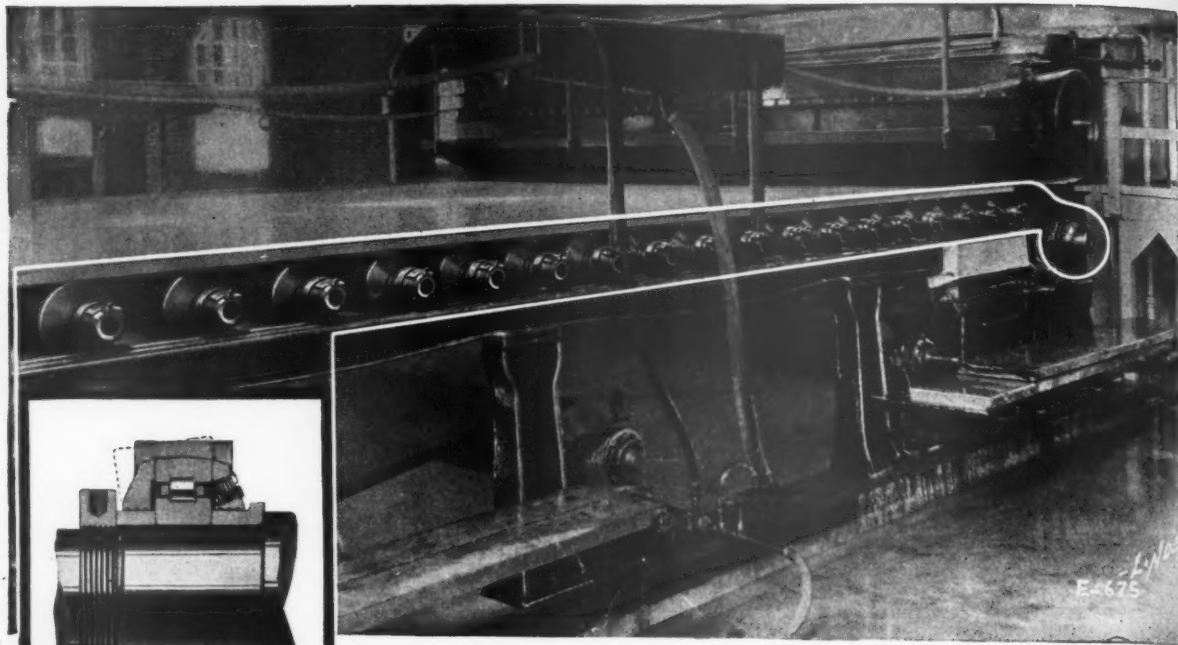
Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

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When writing WESTINGHOUSE ELECTRIC & MFG. CO., please mention PACIFIC PULP AND PAPER INDUSTRY

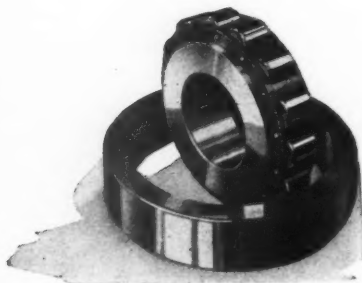




Wet End of high speed paper machine at Kenora Mills. Breast roll and wire rolls in this mill of Kenora Paper Mills, Ltd., of Kenora, Ontario, are carried on Hoffmann Precision Roller Bearings.

Self-aligning Hoffmann Precision Roller Bearing with closely fitting side plates to exclude water and retain lubricant.

Norma-Hoffmann engineers have had a wide experience with paper machinery. This experience is offered you to assist in securing economies in machine operation and maintenance.



N-963

Making wire life longer

THE Breast and Wire Rolls of this modern high speed machine are carried on Hoffmann Precision Self-Aligning Roller Bearings, with swivelling side cover plates.

Even at starting, the rolls turn freely with the movement of the wire. There is no slippage, and no drag on the wire to shorten its life. Stoppages for changing wire are less frequent and wire costs are greatly reduced. Additional economies are effected through lower lubrication costs and lower power consumption.

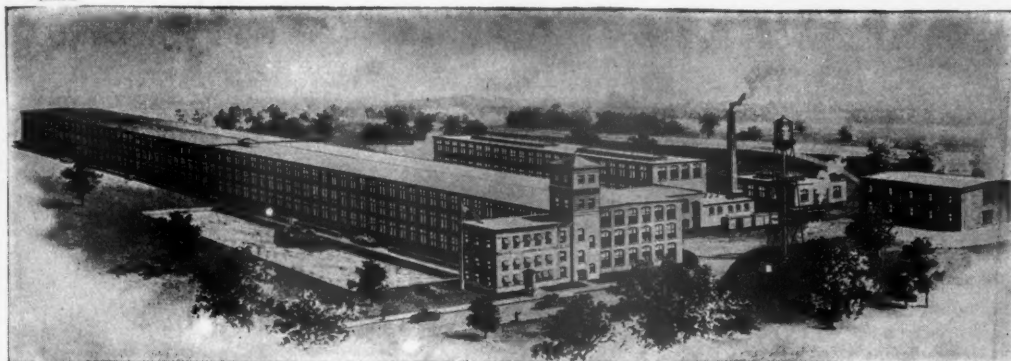
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¶ One of the world's foremost pulp experts who recently visited the Pacific Coast suggested two points for the growing industry in the West to consider. First, it should cooperate in marketing to avoid unnecessary wrecking of the price structure and, second, it should not attempt to sell pulp by specification.

¶ Coming from one whose business is the manufacture and sale of high grade pulps, the second point is rather disconcerting in view of the considerable efforts that have been made in recent years to develop a yardstick for pulp.

¶ The principal criticism of selling pulp by specification is that pulp is a commodity with characteristics of its own which so far have largely defied too exact measurement. Certain devices and methods have

been developed, and certain terms have been coined, designed to convey to the purchaser the qualities of the pulp.

¶ While not decrying research efforts looking toward the building of specifications for pulps, the point was made that so far the tools were entirely inadequate and that measurement depended entirely too much upon the human equation.

¶ Therefore, since the specification yardstick was variable and imperfect, the pulp mills which attempted to sell pulp to consumers—usually far distant—by specification were simply laying themselves a bed of thorns.

¶ With definite specifications of fold and tear and other qualities accompany-

ing each lot of pulp shipped the seller gives to the purchaser weapons for asking a price concession. The purchaser finds it in his power, in applying the pulp yardstick in his own way, to be at variance with the seller's specifications. Even honest differences of opinion lay the path open for trouble, to say nothing of circumstances where cupidity might enter.

¶ In all, the criticism on pulp specifications was that they were too rigid and the tools for determining them were inadequate. On the other hand, the tendency of closer cooperation between pulp manufacturer and the purchasing papermaker, to produce pulp predominating in certain characteristics for specific purposes was warmly approved.

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*"Cooperation is not a sentiment;
it is an economic necessity."*

¶ There have been names better known in America's history than that of Charles Steinmetz, late wizard in the world of electrical science. Few, however, have contributed more solid wisdom than contained in the telegraphic expression given above.

¶ As common sense and facts enlarge the faith of men in each other and elevate the plane of business above the quibblings of sidewalk merchants, acceptance of the cooperative idea is steadily enlarged.

¶ We pass thru an era of economic maladjustment. The urge is strong to appraise the individual greater than the whole. Enlightened business conduct lays as a thin veneer over brutish motives of darker ages.

¶ We are in a crowded theater. There is a smell of smoke. If we are ourselves calm and orderly, and urge our neighbors to be calm and orderly, we can all pass quickly and safely out of the danger zone. If we let the fear of the mob take hold, then——?

¶ As the Pacific Coast develops a pulp and paper industry it grows more evident that there are many problems in common. The region must be unhampered in enjoying its peculiar economic advantages.

¶ Industrial terminology demands a merger and reorganization of the terms "over production" and "under consumption". The single phrase "bad competition" covers both and has the truth in it. Bad competition is born of fear, distrust, and stupidity.

¶ Stress of the current period, in view of the distinctive position of the pulp and paper industry of the Pacific Coast, suggests to the members of that industry the economic necessity for cooperation on questions affecting mutual interests.

WHY

is the Russian pulpwood embargo question

EVADED?

IN boiled down English, the question of Russian forced-labor-produced pulpwood imports has not been met. The issue has been shelved by an expeditious evasive ruling, but it has not been met. It is not an issue which can be tucked into a cubbyhole in the hope it will there expire unnoticed and forgotten. Side-stepping on a circuitous path of technicalities may serve to delay, but in the end those executives of our Federal government charged with the administration of import laws must meet the issue and dispose of it.

The evasion rests now on the easy assertion that evidence is "inconclusive" that the Russian pulpwood is wholly or in part the product of convict—or any other form of non-free—labor. The fact that the United States has no diplomatic relations with the Soviet Union and is therefore checkmated in ordinary channels for securing facts at first hand concerning Russian pulpwood operations is a weak circumventing and is unprecedentedly unfair in shifting the burden of proof from the importer to the industry at large.

Under present practice it is incumbent upon American manufacturers to prove that each cargo of pulpwood is the product of convict labor. It is contended that the situation should be reversed and that no pulpwood be admitted from the Soviet Union until it is proved by the importers that it is not convict-made. That would put the burden of proof where undoubtedly Congress intended it should be.

Testimony at Seattle and Portland by pulp and lumber interests of the Pacific Northwest before the Hamilton Fish, Jr. Congressional committee investigating Communistic activities in the United States presented to this committee the set of conditions stated above. While, of course, the committee was not interesting itself in matters of tariff, it did consider effects of Soviet business in this country.

The testimony put into the record the fact that the Northwest was capable of meeting a major national need for pulp and paper due to its supplies of cheap wood, but that the growing industry of the West Coast was being injured by the uncertain conditions caused by the admission of Russian pulpwood. It was pointed out that in lifting the pulpwood embargo the temporary welfare of a few Eastern mills—principally in New York

state—was guarded, but that the welfare of the growing industry in the Pacific Northwest had been overlooked and that to ask American labor and capital to compete with the Soviet system was to fertilize soil for Communistic seed.

It was necessary for the Pacific Coast forest industries to make a quick rally in order to get across any testimony at all. On this point there was considerable criticism because the committee's visit was not previously announced and only on the day preceding the hearing in Seattle was any notice given the industries affected. Under the circumstances it was obviously impossible for the pulp industry to assemble data on the effects of Russian wood imports with any degree of co-ordination.

Col. W. B. Greeley, secretary-manager of the West Coast Lumbermen's Association, gave a clear recital of the effect of Russian pulpwood and lumber importations on the industries of the Northwest, citing the large number of men now unemployed in Pacific forest industries.

Col. Greeley pointed out that Russian shipments had been admitted to the United States altho what was considered good evidence of convict-production had been submitted to Federal authorities in seeking an embargo.

Ralph Shaffer, president of the Shaffer Box Company, Tacoma, Washington, testified that the uncertainty developed by the admission of the Russian pulpwood had contributed to a serious disturbance in the pulp market. Apparently he rather surprised the committee members in bringing out the fact that his company was producing chemical wood pulp and had found a steady market for it, until recently, in the Midwest states and on the Atlantic seaboard.

Ralph Roberg, sales manager for the Puget Sound Pulp & Timber Company, in a brief but forceful statement, said among other things that when the embargo was first placed on Russian pulpwood his company received an inquiry for 2,000 tons of pulp from the International Paper Company. This order was held for a time, during which period the International Company was protected on the quotation, but that following the lifting of the embargo the orders were released. The incident was cited to show the direct effect of the convict-produced wood importations on the domestic pulp industry in the Pacific Northwest.

B. C. Reforestation Progress

More than 90,000 seedlings have now been planted at the new tree nursery recently established on the Pacific Highway near New Westminster by the British Columbia government. The government proposes to use this tract for experimental purposes in connection with various lumber and pulpwood species and at the same time make the young trees grown there available

for reforestation purposes in areas that have been logged or rendered barren by fires.

The planting of seedlings may be described as the second step in the general scheme which contemplates reforestation of a section of land, as well as the creation of a 40-acre nursery. The first was the planting of some 65,000 to 70,000 two year old trees in logging slash, part of the area to be reforested.

The Pacific Section of

T · A · P · P · I

Holds Its Fall Meeting

ANOTHER meeting of the Pacific section of TAPPI has been written into history. This time it was in Portland, Oregon's first city, on Saturday, October 11, with sessions and banquet held in the ballroom of the Hotel Multnomah. Attendance wasn't quite so heavy as at the two preceding regular sessions, that at Tacoma a year ago, and at Longview last spring, but then times are hard, we hear tell, and such a state of mind no doubt kept a few of the boys home.

But it wasn't a bad shindig at all, at all. There were lots of the old familiar faces, and quite a few new ones too. For instance, there was Max Krimmel, national president of TAPPI, come way out to the Coast for the first time from his home stamping grounds at Erie, Pennsylvania, where Hammermill Paper Company runs a mill and employs more technicians than blizzard has snowflakes. Came out to say a few words to the men, President Krimmel did, and incidentally to look at that fine new paper mill down at Hoquiam, Washington, the Grays Harbor Pulp & Paper Company, in which Hammermill has quite an interest in men and money and materials.

Then there was a studious looking chap come all the way from Washington, D. C., Mr. Hoover's town; come out to unravel some of the mysteries about paper. His name was B. W. Scribner, and he heads the paper section of the U. S. Bureau of Standards. Mr. Scribner told what the government is doing to find out how long paper will last if not prematurely subjected to the chew, spit and tear test. It was kind of deep stuff, but lots of interest in it for the studious reader, so the address has been printed in full in other pages of this issue.

New Names and Faces

Another man from way down East was L. M. Start, secretary of Rice, Barton & Fales, a youthful firm that started in business 90 years ago down at Worcester, Massachusetts, building paper machines. Mr. Start's company put in a couple of machines at Port Angeles during the past few years.

Getting closer to home we find among those present F. R. Titcomb, general manager of the Weyerhaeuser Timber Company, than which perhaps—no Pacific Coast company at least—no single outfit owns more timber on the stump or has more sawmills to whittle it. Mr. Titcomb's company is breaking into the pulp game, building a 150-ton mill down at Longview, so it looks like Weyerhaeuser is a name TAPPI is going to have to learn how to spell. Coming down with Mr. Titcomb were Carl Weyerhaeuser, one of the younger generation of that old family, William Einzig, who isn't exactly a newcomer in pulp and paper, and A. L. Raught, Jr., who has charge of Weyerhaeuser's extensive properties at Longview.

Those were some of the new faces. Can't name them all here. Look over the attendance list for yourself. Got to say a few words about the meeting.

Chairman R. S. Wertheimer, resident manager of Longview Fibre Company, opened the session with a few remarks on the nature of the meeting, which was somewhat experimental in nature, designed to draw its material from the many committees and, specifically, from the Pacific section members of these committees.



R. S. WERTHEIMER
Retiring
Chairman
PACIFIC SECTION
TAPPI

There were only two scheduled addresses, those of Mr. Krimmel and Mr. Scribner. Mr. Krimmel said that in this, his first, trip to the Coast, he was impressed with the region, its people and its industrial development. His main remarks were confined to Technical Association matters. At the recent fall meeting of TAPPI, President Krimmel explained, the final O.K. was placed on sectional organizations. Under this new ruling the sections receive financial support from a national body. Three or more interested members are required to start a section. A new class of affiliate memberships was created to permit a bigger field of activity when cruising around for dues. The affiliate membership was considered particularly valuable to the Pacific section in its ability to serve as a feeder for regular memberships.

President Krimmel pointed out that the most important work done by TAPPI in the past year was the dry-docking and overhauling of its committee organization. Well, they just sort of had to come to it. You can realize that in picturing the growth of TAPPI in not so many years from 15 original members to 1,100 now. Complicates things when you grow like that. Can't hold the banquet in the same cafeteria. Fifteen men in a little room can all get a chance to speak, but 1,100!

So TAPPI sat down and chewed a pencil and surveyed its chemists, steam engineers, mechanical engineers, management specialists and a lot of other interests in the army of 1,100, all of whom were fundamentally interested in pulp and paper and the welfare of the industry. Therefore the reorganization considered all these interests and regrouped its committees so that each individual would have the proper opportunity

to serve in committee activities in his special field. The new arrangement also draws definite lines between activities so that committees do not overlap in their efforts.

The national body of TAPPI has also revised its method of presenting committee reports, the purpose being to make them so interesting that a man can't afford to stay away.

President Krimmel made a frank statement covering the opportunities and responsibilities of the Pacific section. This part of his address is presented verbatim on another page.

Mr. Scribner preceded his address with a statement that the Bureau of Standards recognizes that different parts of the country have different problems. He complimented the Pacific Coast men for recognizing these problems and for the way they are solving them.

NEW OFFICERS PACIFIC SECTION OF TAPPI

Chairman—C. W. Morden,
C. W. Morden Co., Portland.

Vice-Chairman—Harry Andrews,
Powell River Co., Ltd., Powell River, B. C.

Secretary-Treasurer—Myron W. Black,
Inland Empire Paper Co., Millwood, Wash.

The morning session closed with a brief business meeting in which several things were settled. First, they had to dispose of that question of new officers. Chairman Wertheimer adroitly removed the props before calling for nominations by suggesting that any TAPPI member ought to be willing to serve if called upon.

C. W. Morden, of the C. W. Morden Company, Portland, upon nomination by Ray Smythe of the Willamette Iron and Steel Works, Portland, was elected chairman for one year. Retiring Chairman Wertheimer heaved a remote little sigh. Well, he's no doubt earned a relief.

Mr. Morden needs no introduction to the industry on the Pacific Coast. Coming from a family of publishers he was for many years associated in executive capacity with the Crown-Willamette Paper Company. He resigned about three years ago to devote his time to private enterprise in developing equipment allied with pulp and paper.

Harry Andrews, chief chemist at Powell River Company's big newsprint mill in British Columbia, tried a graceful dodging of the vice-chairmanship on the plea of unusual mill activities during the next year, but, informed that the vice-chairman usually got off pretty easy, he accepted the nomination by Ralph Reid, St. Helens Pulp & Paper Company, retiring vice-chairman.

Dr. H. K. Benson, who has labored from the beginning to develop the Pacific section of TAPPI, nominated Myron W. Black of the Inland Empire Paper Company, Millwood, Washington, for the combined post of secretary-treasurer, and Mr. Black got the job and the responsibility without a struggle. Dr. Benson had asked not to be considered for next year because he will be on sabbatical leave from his post as Professor of Chemistry and Chemical Engineering at the University of Washington next year.

With the question of officers settled the new affiliate memberships were discussed. How much they ought to charge such members? President Krimmel inter-

jected at this point that the national body had given much study to affiliate membership and saw in it an opportunity to widen the scope of a section. In general the membership is open to all who are interested in the pulp and paper industry.

The question of dues brought up a discussion on open and closed meetings. The sentiment was that any man who attended ought to be willing to pay the piper.

Thus we may boil down the business session to the election of officers and the passing of three motions:

First—That the executive committee (composed of the section officers) should pass on the applications for affiliate membership.

Second—That affiliate members pay dues of \$3 annually.

Third—That Pacific section TAPPI meetings be closed to all except members and affiliate members.

By ruling of the national executive committee section officers must be regular members of TAPPI. They pay the full dues for their classification and receive the technical papers. Affiliate members may participate in the activities of the section and may vote, but they can not hold office.

At the afternoon session Chairman Wertheimer read a letter from C. E. Curran of the Paper Section, Forest Products Laboratory, Madison, Wisconsin, expressing regrets for inability to attend. Mr. Curran had been scheduled to give an address on the work of the laboratory but was forced to cancel his trip shortly before the meeting date.

The entire afternoon session was taken up by committee reports.

Myron W. Black, reporting on education, stated the purpose of the committee and emphasized that the greatest work was that of placing students in mills for summer work and also placement on a permanent basis upon graduation. His suggested action was to canvass all of the mills and colleges in the Pacific Coast states to determine what degree of cooperation may be effected.

Concerning Patents

C. W. Morden, in reporting on patents, stated that so far he had attempted to complete his committee but had not been successful. He said he hoped to induce an attorney skilled in paper industry patent work, to join the committee. Mr. Morden pointed out the necessity for important changes in the judiciary machinery for handling patents.

R. J. Schadt reported on the waste committee. Mr. Schadt personally is working on a white water waste study in newsprint mills. In open discussion on waste it was suggested that the Pacific Coast waste committee enlarge its scope to include pulp mill waste problems.

Ray Smythe of the Willamette Iron and Steel Works in reporting on equipment gave the feature report of the afternoon. In addition to discussing the work of the committee he gave a very interesting illustrated discussion on steam accumulators. He advocated cooperation between mills and machinery houses in solving operating problems. Mr. Smythe stated that engineers are thinking more independently than ever before which is a healthy indication of progress. He quoted specifically a large number of developments that had been worked out in Pacific Coast mills to meet Pacific Coast conditions.

At the request of Chairman Wertheimer, R. B. Wolf described the origin of high density bleaching.

Sigurd Norman reported completion of the acid

pulping committee by appointment of H. Lundberg and A. Klingberg. He presented a list of ten questions which indicated that this committee has its work cut out.

Leo Friedman, reporting on fibrous raw materials, said he might have to draft some committeemen. His committee will largely interest itself in study of acidity and its development in different parts of the process.

Several other committee reports were made, but the analysis of progress in the entire field of committee activities was that the appointments are too recent to have permitted the members really to begin functioning, altho the earnestness presaged some good work as soon as the full stride is reached.

The evening banquet held the usual good measure of fun and fellowship. Scott Henderson, first brought into the TAPPI fold by the Tacoma delegation, was again in the seat of toastmaster. His ready wit developed as a "technicality" expert in law practice at Tacoma has won him a permanent appointment as toastmaster, Chairman Wertheimer announced.

Again there was singing and jovial bandying of words back and forth between the tables. There weren't any real speeches at the dinner. TAPPI'S national president, Max Krimmel, spoke a bit. Couldn't hardly escape that, you know, in view of his office.

The toastmaster called on various victims to give short speeches of fun, fact and fancy. Among these victims was F. R. Titcomb, of Weyerhaeuser, who interspersed with his jokes some solid bits of wisdom. Among other things he said that it was becoming an economic necessity for the lumberman to get into the manufacture of pulp in order to conserve timber. He stressed the need for revision of present forest taxation laws if private reforestation is to have any encouragement and if the Pacific Northwest's great forest industries are to be perpetuated.

He pointed out that one of the greatest needs of the industry was intelligent merchandising. He took a leaf from the lumber industry, where merchandising in general has been haphazard, but which is getting steadily on to a better basis.

"Anybody can make pulp," Mr. Titcomb said, "but it takes real brains to merchandise it."

He suggested that a good policy for the coast to follow would be to make the best pulp in the world and put it on the market at a price which netted a fair return.

At the banquet Dr. Benson was tendered a rising vote of thanks for the work he has done to build up the Pacific section of TAPPI. Responding, Dr. Benson said that he was going east for a year and that he hoped to be able to do some work on lignin.

"Lignin is today unwelcome in the pulp mill," he said. "You do everything possible to destroy it. I hope to look into this orphan product and possibly find some use for it."

Dr. Benson urged that TAPPI make use of the educational institutions in working out the industry's problems. "Take one of these highly theoretical men into your organization for a year," he said. "Don't expect any immediate profit from him, but let him prow around a bit and apply his turn of mind, which is quite a different viewpoint from that of the work-a-day practical operating man, to your mill problems. You may find that he will contribute some new touch that you can later turn to profit."

While not decided definitely, it was agreed to hold the next two meetings in the North. Everett seemed to be favored for the 1931 spring meeting, and Vancouver, B. C., for the fall meeting.

THOSE WHO ATTENDED

M. A. Krimmel, Hammermill Paper Co., Erie, Penn.; B. W. Scribner, Bureau of Standards, Washington, D. C.; Wm. Einzig, Weyerhaeuser Timber Co., Tacoma; L. M. Start, Rice, Barton & Fales, Worcester, Mass.; F. R. Titcomb and Carl Weyerhaeuser, Weyerhaeuser Timber Co., Tacoma.

Carl E. Braun, Puget Sound Pulp & Timber Co., Everett; Robert B. Wolf, Wolf & Hill, Consulting Engineers, New York; G. J. Armbruster, Puget Sound Pulp & Timber Co., Everett; I. H. Andrews and J. A. Lundie, Powell River Co., Ltd., Powell River, B. C.; A. Klingberg, Puget Sound Pulp & Timber Co., Everett; Thomas E. Motz, Hooker Electrochemical Co., Tacoma.

E. P. Ketchum, Powell River Co., Ltd., Powell River, B. C.; Charles A. Newhall, Chemical Engineer, Seattle; Ralph Reid, St. Helens Pulp & Paper Co., St. Helens, Ore.; Dr. W. Hirschkind and Earl G. Thompson, Great Western Electrochemical Co., Pittsburg, Calif.

Brian L. Shera, Wallace & Tiernan Co., Seattle; G. F. Mitchell, Hesse Ersted Iron Works, Portland; R. S. Wertheimer, Longview Fibre Co., Longview; Sigurd Norman, Sumner Iron Works, Sumner; R. A. Sipes, G. D. Jensen Co., Seattle; Myron W. Black, Inland Empire Paper Co., Millwood, Wash.; A. L. Raught, Jr., Weyerhaeuser Timber Co., Longview.

W. H. Gibbons, U. S. Forest Service, Portland; A. T. Peterson, Naso Chemical Co., Seattle; Ray Smythe, Willamette Iron & Steel Works, Portland; Bror L. Grondahl, University of Washington, Seattle; A. C. Silliman and George Thorsen, Spaulding Pulp & Paper Co., Newberg, Ore.; Geo. Friedman, University of Oregon, Eugene; R. J. Schadt, Hawley Pulp & Paper Co., Oregon City; H. Lundberg, G. D. Jensen Co., Seattle.

C. W. Morden, C. W. Morden Co., Portland; U. A. Keping, Griffith Rubber Mills, Portland; Kenneth B. Hall, Noble & Wood Machine Co., Portland; H. Gevers, Longview Fibre Co., Longview; James P. V. Fagan, Puget Sound Pulp & Timber Co., Everett; A. S. Quinn and C. F. Richter, Stebins Engineering Co., Seattle.

H. A. Vernet, Oliver-United Filters, Inc., Portland; Thomas Lovett, Paper Mill Equipment Co., Portland; George Frogner, A. R. White and Jack H. Baker, Tacoma Electrochemical Co., Tacoma; Walter S. Hodges, Appleton Felts and Wires, Portland; E. R. Johnson, Everett.

S. B. Gorbett, Willamette Iron & Steel Works, Portland; C. E. Brickner, Electric Steel Foundry Co., Portland; Ralph Shaffer and Arthur Bergren, Shaffer Box Co., Tacoma; A. H. Hooker, Jr., Hooker Electrochemical Co., Tacoma; W. W. Griffith, St. Regis Kraft Co., Tacoma.

Max Oberdorfer and Elmer Emigh, St. Helens Pulp & Paper Co., St. Helens, Ore.; Fred Shaneman and Lyle Zedner, Tacoma Electrochemical Co., Tacoma; E. G. Drew, Ross Engineering Corp., Portland; J. V. B. Cox, Paper Makers Chemical Co., Portland.

In discussion following Mr. Scribner's address the author remarked that the very old Bibles contained an excellent grade of paper from the standpoint of permanence. These papers were made entirely by hand. As machinery developed with mass consumption the tendency was to digress from the permanence qualities, but now the trend appears to be once toward permanence qualities.

* * *

C. W. Scribner of the U. S. Bureau of Standards, commenting on the permanent qualities of paper, said that 20-year-old copies of the Portland Oregonian were found to be in good shape. Copies of the New York Times of the same period were in poor condition. Max Krimmel, jokingly commenting on this situation, said that here was good evidence that the Western climate was superior.

New Pacific TAPPI Members

Latest Pacific Coast members of TAPPI to be announced by Secretary R. G. Macdonald are J. D. Hull, consulting engineer, 353 Colman Building, Seattle, and N. O. Galteland, Puget Sound Pulp & Timber Company, Everett, Washington.

OPPORTUNITIES and RESPONSIBILITIES

of the Pacific Section of TAPPI*

By MAX KRIMMEL, President
Technical Association of the Pulp and Paper Industry

THE officers and executives of the executive committee of TAPPI feel that the Pacific Coast section is a vital and necessary part of our association. Since I have had an opportunity on my recent trip to study conditions at close range I am more conscious than ever before that your section has a tremendous responsibility and a wonderful opportunity in connection with the work of TAPPI.

The pulp and paper industry has expanded rapidly in recent years in this part of the country. The mills which have been built and those contemplated are modern in every respect and embody the latest developments in equipment and processes. New types of raw materials are being used. New problems arise which must be solved. Competition is keen on the West Coast just as it is in the East and South. The technical men are playing an important part in the development as they should. But because of these things the association work must be conducted with efficiency and tact. Because of these things the responsibilities of the Pacific Coast section are greater than those of any other section we now have or of those forming.

Belief In Association Work

I am going to speak frankly to you because I believe that the situation requires it. There are some mills on the West Coast who believe in Association work, who are corporation members of TAPPI, who have employees who are individual members of TAPPI, but they can not at the present time see their way clear to support the Pacific Coast section or to permit their men to participate in the activities of this section. They are taking this stand because they have been embarrassed by technical men parading under the banner of TAPPI in asking for pertinent information and because they feel that their men in attending meetings would give a great deal and receive nothing in return. They also feel that their men have no right to attend, take all and give nothing. This attitude can not be changed by any belligerency on your part or on the part of TAPPI. However, it can and will be changed if you and TAPPI go about it in the right way and let us remember that nothing is settled until it is settled right. Herein lies the biggest opportunity that any section has ever had and incidentally the greatest responsibility.

I believe in association work and in the interchange of ideas and I fully realize that one can not interchange ideas without giving something. In order to make it profitable for both sides, the one who gives should also receive, obviously, to make the interchange complete. I am opposed to any one seeking information

under the name of TAPPI for selfish motives. I do not like to see any group or groups stay out of all phases of association work, because I believe they will eventually lose by such action.

I believe that the solution of the problem lies in the forming of a reasonable Code of Ethics which will protect all classes of members of the association and also of the section. Also that your section can help to overcome the obstacles by giving careful thought to the preparation of your programs and to the conducting of your meetings.

Code of Ethics

Here again the Code of Ethics will be of considerable assistance to the section. We attend meetings to get something out of them and by learning of new developments, by interchange of ideas, and by contact with others in the same field of endeavor. If attractive programs are arranged, technical men from all mills will soon realize that they cannot afford not to attend your meetings, and there will be some pressure from within in hesitant organizations.

But it is up to the officers of your section to see to it that the private rights and company rights of individuals are respected and to differentiate between association business and private business. Surely there are enough things of a general nature that can be discussed at these meetings so that it should not be necessary to depend on a disclosure of mill secrets to have a profitable meeting. Along this line I might suggest that if research on some of the problems of the industry on the West Coast could be conducted in the western scholastic institutions that this would be of invaluable assistance in furnishing material for presentation and discussion at your section meetings.

Will Be Solved

I am confident that this problem will be solved. I have the assurance of the mills not supporting your section now that their position is not fixed, that they have an open mind on the subject and that it is possible that they will change their attitude as soon as they can see that they are justified in doing so. In other words, they are waiting to be shown and it is up to you to show them. I know you can and will do it. Let me assure you that you will have the full support and assistance of TAPPI in the arrangement of programs, supplying of speakers, and in any other way consistent, of course, with our policy, which must be respected. While a very large part of the burden of this falls on your shoulders, please be assured that we look upon this as a TAPPI affair as much if not more so than a Pacific Coast Section affair.

*From an address before the Pacific Section of TAPPI, Portland, Oregon, Saturday, October 11, 1930.

The Deterioration of Paper

Studies by the U. S. Bureau of Standards†*

By B. W. SCRIBNER

Chief, Paper Section, U. S. Bureau of Standards

Outline of Studies

Owing to the general demand for more definite information on the qualities which make paper resistant to deterioration, the Bureau of Standards initiated systematic study of this problem. In view of the widespread interest manifested in such information, the study has been expanded until it is now the major paper research of the bureau.

The program in progress is made up of (1) tests of the current commercial rag fiber and wood fiber products, including the fibrous raw materials; (2) tests of similar papers made in the bureau's paper mill and, therefore, having a definitely known history; (3) inspections and tests of papers of known age; (4) a study of means of overcoming influences found to be harmful to the life of papers; and (5) research to find the nature of the reaction of paper celluloses to deteriorating influences.

Considerable work has been done on item No. 1, and a progress report, "A Study of Purified Wood Fibers as a Paper Making Material," published in the Bureau of Standards Journal of Research, Vol. 3, No. 3, p. 469; September, 1929 (Research Paper No. 107).

Work is now in progress on item No. 2 of the program. The types of papers to be made are (1) sulphite-soda book, (2) sulphite bond, (3) bond made from highly-purified wood fibers, and (4) five grades of rag writing and bond papers, using all grades of rags. The objectives of this work are (1) to make the best papers possible from the various fibrous materials, so as to obtain a better comparison of the paper-making quality of the raw materials than is possible with commercial papers, and (2) to introduce variables suspected of being harmful, such as overbleaching, high acidity, and overheating, for the purpose of observing their effects on the different fibrous materials.

Intensive study of items (3) and (4) has been made possible by a fund granted by the Carnegie Foundation, which is particularly interested in the preservation of publications. This fund is being administered by the National Research Council. Surveys of public libraries to correlate deteriorating effects with storage conditions are in progress, and laboratory studies of the deteriorating effects indicated by the library surveys are being made.

The obvious point of attack on item (5) is to find more definitely the nature of the products formed by degradation of cellulose. With this information, a study of the mechanism of the degradation will be the next logical step. A knowledge of these facts will enable one (1) to inhibit or delay degradation, or (2) to predict whether or not degradation will occur. Fundamental physical and chemical studies of cellulose are being initiated for this phase of the work.

Testing Permanence Qualities

The basic constituent of paper fibers is cellulose, and the characteristics of the fiber cellulose without doubt are the main factors in the resistance of the fibers to deteriorating influences. Cellulose materials having a high degree of purity are among the most permanent forms of organic matter known.

A classic example is the cotton fiber. One of the chief characteristics of the cotton fiber is insolubility in strong alkaline solutions, therefore the degree of resistance which cellulose materials offer to caustic alkali solutions is commonly used as a convenient quantitative measure of their purity.

Such determination is commonly made by treatment

While at first glance Dr. Schribner's article may have the appearance of a highly technical discussion of interest only to the chemical laboratory scientist, such is really not the case.

Woven into this discussion are many worthwhile suggestions for the practical mill man and for the paper salesman, and by paper salesman is meant both the executive who directs production and the man who sees the customer for the order.

The careful reader will find these valued hints. They are little bits, capable of arousing initiative, but they are not staked out with sign posts.

of the cellulose material with a 17.5 per cent solution of caustic soda and the residue is termed alpha cellulose, as distinguished from the so-called beta and gamma celluloses which are dissolved by the caustic soda.

An additional test of the purity of cellulose is the copper number. Degraded forms of cellulose have the property of reducing copper from cupric hydroxide quantitatively, and this reaction appears to be a valuable means of determining the amount of these impure forms of cellulose, which are considered to be quite impermanent and possibly to induce deterioration.

Another characteristic of cellulose material having a high degree of purity is resistance to heat, and in the case of paper such treatment is presumed to hasten the chemical reactions that might occur naturally with aging. The bureau makes this test on paper by heating it for 72 hours at 100° C. and finding the degree of deterioration in chemical properties and in strength.

*Published by permission of the Director of the National Bureau of Standards of the U. S. Department of Commerce.

†A discussion presented at the Fall meeting of the Pacific Section of TAPPI, Portland, Oregon, October 11, 1930.

Other chemical tests employed are determination of rosin and acidity as these appear to have an important bearing on permanence.

A certain degree of strength is necessary, of course, for all classes of papers and high strength is necessary where permanence and resistance to repeated handling are both required. The testing for permanence qualities was therefore planned from these considerations, which as far as deterioration is concerned are logically based on the viewpoint that paper is primarily a cellulosic material.

Tests of Current Paper-Making Fibers and of Papers

Tests have been made along the lines indicated on a great number of current fibrous raw materials and papers. The fibrous raw materials tested consisted of various grades of rag half-stock, highly-purified wood pulp, sulphite wood pulp, and soda wood pulp, all secured from commercial sources and believed to be thoroughly representative. Typical commercial papers composed of these materials have been tested, as well as papers made in the bureau paper mill from the highly-purified wood fibers. Some illustrative test results are given in Tables 1 and 2.

A comparison of these tables shows how closely the cellulosic purity of the fibrous raw materials is reflected in the quality of papers made from them. While a high-grade fibrous material may be ruined as far as paper-making quality is concerned by faulty conversion operations, it is impossible to secure high-quality in paper unless the stock going to the beater has high quality.

The paper tests show the close relation between high cellulosic purity and stability under the heat test. In either case, whether the paper fibers are derived from rags or from wood, the tests show that papers of the highest quality are characterized by a high alpha cellulose content and a low copper number, and that these desirable characteristics can be associated with high strength.

Tests of book papers have indicated that inert filling materials such as the clays ordinarily used have no harmful effect on the stability of papers, and may even act in a protective way. This is in line with the opinion generally held.

Paper-Making Tests

So far, the paper-making studies of the various raw materials in the bureau mill have been confined to highly-refined wood fibers. The results obtained show that these fibers react in the beater similarly to high-grade rag fibers. When the beater roll is lowered gradually, the fibers become frayed and form fibrillae similarly to rag fibers, without excessive hydration. By means of this beating procedure unsized papers of ordinary bond

weight were readily produced having a folding endurance of 3500 or more. As in the case of the commercial papers, these experimental papers have a high degree of cellulosic purity and stability.

As was expected, both alum and rosin when used in excessive amounts had deleterious effects. When alum corresponding to 4.4 pH was used, the stability of the paper was greatly lowered. When the pH of the paper stock was maintained around 5.5, both stability and degree of sizing were satisfactory. If the stock was much less acid than this, the sizing effect was poor. Of two papers of the same acidity, that containing the lesser amount of rosin was the more stable.

Studies of the effect of starch used in the beater indicated that it had little, if any, effect on the stability of the papers, although it added somewhat to their strength. Both starch and glue used as surface sizing appeared to have somewhat of a protective effect as far as the stability of the papers is concerned, and also increased their strength.

Tests of Old Publications

Studies of old papers of known age is another important source of information on the aging properties of papers. Public libraries in the various sections of the United States are cooperating with the bureau in this respect. Samples of newspapers, books, and periodicals are being systematically collected and tested. Some tests of newspapers recently completed are of particular importance because they were representative of fibers from a wide variety of sources and pulping processes.

The papers were from the New York Public Library and were dated from 1830 to 1895. To 1865 the papers are composed entirely of rag fibers and from 1865 to 1873, the papers generally consist of rag fibers mixed with fibers from straw, esparto, and wood. The fibers of all these papers were apparently well purified by chemical treatment, and the papers are generally in good condition. Starting with the use of mixtures of these refined fibers with crude ground wood fibers, around 1873, the papers generally are badly deteriorated. The modern type of newsprint was apparently introduced about 1890.

These results give additional evidence that the processing of the paper fiber is an important factor in the aging quality of the paper, as is shown by the fact that the papers composed of fibers refined by chemical treatment are generally in good condition, irrespective of the character of the fibrous raw material or of the chemical treatment employed. Similar results are being obtained with the other classes of publications. Although no doubt a high degree of cellulosic purity is required for permanent papers, these tests of old publications indicate that papers made of fibers produced by any of the usual chemical pulping processes are more permanent than is commonly believed.

Suggested Permanence Classification of Papers

The foregoing outline presents the view that the permanence of paper, as far as chemical determination is concerned, is largely dependent on cellulosic purity, and a minimum of active chemical constituents, particularly rosin and alum. From this viewpoint the following permanence classification of papers has been suggested¹.

Grade I. Permanent papers, having a maximum degree of purity; free from unbleached fibers, and highly lignified fibers such as ground wood. Indicative chemical properties; Alpha

¹Permanence Standards for Printing and Writing Papers. Transactions A.S.M.E., 52, No. 19, PL-52-5 (May-August, 1930). The Paper Mill and Wood Pulp News, 53, No. 24, 5-38 (June 14, 1930), and 53, No. 25, 13-15 (June 21, 1930).

TABLE 1—TESTS OF PAPER-MAKING FIBERS

Kind of fiber	Alpha Cellulose content Per cent	Decrease in alpha cellulose content at 100°C. for 72 hours. Per Cent	Copper number	Increase in copper number on heating at 100°C. for 72 hours.
New white rag half stock	98.2	0.1	0.27	0.07
Used white rag half stock	91.4	1.2	.57	.08
Used colored rag half stock	83.8	2.6	Tests not completed	
Highly purified wood pulp	91.9	0.3	.64	.13
Sulphite pulp	84.8	1.9	3.17	.27
Soda pulp	74.6	1.5	Tests not completed	

cellulose, 90 per cent; copper number, 1.5; rosin, 1 per cent; acidity, 5 pH; changes on heating 72 hr. at 100 deg. cent.; decrease in content of alpha-cellulose should be not more than 1.5 per cent; decrease in folding endurance not more than 25 per cent; increase in copper number not more than 0.5.

Grade II. Papers quite highly purified that may be expected to have a minimum life of 100 years; free from unbleached fibers, and highly lignified fibers such as ground wood. Indicative chemical properties: Alpha cellulose, 80 per cent; copper number, 2.5; rosin 1.5 per cent; acidity, 5 pH.

Grade III. Papers having a fair degree of purity that may be expected to have a minimum life of 50 years; free from unbleached fibers, and highly lignified fibers such as ground wood. Indicative chemical properties: Alpha cellulose, 70 per cent; copper number, 5; rosin, 2 per cent; acidity, 5 pH.

Grade IV. Papers having a low degree of purity containing considerable organic impurities, suitable for current use only. This grade includes papers containing unbleached fibers, and highly lignified fibers such as ground wood.

All figures given for chemical components in these grade descriptions are upper limits, except for alpha-cellulose contents which are lower limits. Alpha-cellulose content and copper number are based on total cellulose content.

Relation of Control of Manufacturing Operations to Paper Quality

The production from low-grade cellulose materials, of fibers having high alpha-cellulose content and great strength is not a simple matter. In the case of fibers such as the highly-purified wood fibers mentioned, the process starts with the selection of the wood. Every detail of the preparation of the wood and its conversion into pulp is carefully watched and kept under strict control.

A specific example of the chemical processes that are used in one case is as follows: Spruce wood is so cooked by the sulphite process as to leave the pulp somewhat rawer than is common for production of bleached fiber. The unbleached fiber is treated in a 5 per cent suspension in water with from 0.3 to 1.5 per cent chlorine for a short time in order to render the lignins and other impurities more susceptible to the subsequent alkali treatment. In this treatment, from 6 to 9 per cent of caustic lime or caustic soda is used, this being added to pulp of 10 per cent consistency, and the mixture is then heated at about 100° C. for 4 to 6 hours. This treatment removes a large part of the impurities, and a bleaching treatment with a small amount of calcium hypochlorite serves to further purify the fibers.

Processes such as the one described produce fibers suitable apparently for permanent papers, and necessarily the resultant product is too expensive for use in the bulk of writing and printing papers, as the demand for permanent papers is comparatively limited. However, careful control of the ordinary manufacturing

processes used in producing paper fibers is certain to result in improved quality. Cellulose is very susceptible to chemical reactions, particularly at elevated temperatures. Therefore, the amount of chemicals in cooking and bleaching operations, and the temperatures and duration of these treatments should be carefully controlled for the best results.

Considerable skill and close control in the paper-making processes are also required to obtain optimum results in the final product. Excessive mechanical action in the beater, excessive temperatures in heating and in drying, and poor control of sizing operations are all harmful to paper quality. Careful attention to such details may effect considerable improvement in the paper at comparatively low cost.

Effect of External Influences

Deterioration of paper may be caused or accelerated of course by external influences. Studies are being made of library storage conditions and their possible effect on paper. Surveys in libraries have shown that publications may be injured by acid pollution of the atmosphere, light, dust, high temperature, and high humidity. Damage in these respects may be minimized by removing the dust and acid impurities from the air circulated in the library, by control of temperature and humidity, and by minimizing actinic light rays.

By means of a cabinet wherein the atmosphere can be varied at will, and held constant under various desired conditions, determinations are being made of the effect of the different atmospheric influences. Studies of the effect of heat on papers, over the temperature range of 60° C. to 130° C., indicate that the drying-out effect of heat is a potent agent of deterioration. A close relation between loss of strength and loss of weight on heating was found, which is good evidence that the drying-out of paper may result in sufficient decomposition to seriously limit its life.

Study of the effect of acid pollution, proposed as a part of these laboratory investigations, should yield information of considerable value. Paper is an excellent acid-making plant as it readily absorbs sulphur dioxide which is changed to the trioxide in the presence of ferrous iron. As sulphuric acid is non-volatile, the acidity of paper from this source is cumulative. The importance of this consideration can be realized when it is known that the sulfur pollution of some industrial cities is equivalent to an annual precipitation of 100 tons or more of sulphuric acid per square mile.

As a part of the study of the "yellowing" of paper, which is commonly attributed to the effect of light on

TABLE 2—TESTS OF PAPERS

Sample	Source of Fiber					Folding Endurance		Acidity (Kohler-Hall Method) Per Cent SO ₂	Alpha Cellulose (corrected for sizing material) Per Cent	Copper Number	Effect of heating at 100°C. for 72 hours	
	Rag Per Cent	Coniferous Per Cent	Deciduous Per Cent	Resin Per Cent	Glue Per Cent	Mach. Dir. Double folds	Cross Dir. Double folds				Folding endurance in per cent of initial. Per Cent	Decrease in alpha cellulose content. Per Cent
1. Rag Bond	100	—	—	1.4	2.17	3639	2814	.090	94.5	1.06	82	1.4
2. Rag Content Bond	50	50	—	1.7	2.56	726	321	.110	81.0	2.50	48	3.8
3. Highly purified wood fiber bond (Commercial paper)	—	100	—	1.5	2.36	2465	1560	.063	89.0	1.31	71	1.9
4. Highly purified wood fiber bond (made in bureau mill)	—	100	—	0.5	1.00	3974	3334	.046	90.2	0.84	86	0.5
5. Sulphite bond	—	100	—	0.9	—	484	191	.126	79.0	3.51	3	7.9
6. Soda sulphite book	—	50	50	0.8	—	20	2.4	.095	63.3	5.13	48	8.4
7. Soda sulphite book	—	35	65	0.6	—	34	16	.038	77.4	2.27	64	0.2

rosin-sizing materials, samples of the reaction products of rosin with sodium, aluminum, ferric iron, and ferrous iron have been exposed to the light of a carbon-arc lamp. Distinct darkening was found in the case of the ferrous resinate alone. Similar results were obtained with rosin size contaminated with amounts of ferrous iron commonly introduced in commercial operations with alum and water. While these results indicate that ferrous iron has a distinct relation to the "yellowing" of paper, they are to be further studied in a practical way by tests of papers made in the bureau mill.

Preservation of Impermanent Papers

Some study has been made of the preservation of papers known to be impermanent, particularly in reference to newspapers. Japanese tissue paper pasted on the papers with starch is in use in several libraries for this purpose. The use of other transparent materials such as cellophane and cellulose lacquers was studied, but the Japanese tissue appears to be preferable. No doubt such treatment at the best can only prolong the life of the papers to a limited extent. Photostating on permanent paper appears to be the most practicable way of preserving records of this kind. Tests of the rag-fiber newsprint papers being used for permanent library issues have shown that they have excellent permanence qualities, therefore the preservation of newspaper records since 1927, when this practice was initiated, appears to be adequately taken care of.

Improvement and Standardization of Test Methods

Considerable attention has been given to improvement of chemical tests used for measuring the permanency values of papers. No standard methods of determination of copper numbers, alpha cellulose, and acidity of paper are available, therefore development and standardization of such methods is very desirable.

Modified procedures for copper number and alpha cellulose have been developed which appear to be suitable. With these procedures, alpha cellulose can be determined to an accuracy 0.3 of a per cent, and copper number to an accuracy of 0.1 per cent. While such determinations are comparatively new to paper laboratories, they are quite simple and rapid. They are used in several mills as control methods and no doubt this practice will increase rapidly, owing to the valuable information it yields.

Study of acidity determination is being made in co-operation with the Government Printing Office and the Bureau of Chemistry and Soils. Standardization of this test is of particular interest to the Government paper laboratories owing to inclusion of acidity specification in the bonds and ledgers purchased for permanent record use. Both pH methods and titration methods are being studied. It has been found that colorimetric pH determinations agree well with results secured by electrometric methods providing iso-hydric indicators are used. The Kohler-Hall titration method, and titration of a suspension of the fibers as suggested by Dr. Jessie E. Minor, are being investigated and both appear to have certain advantages. Further details of these acidity studies will be found in reports given by B. L. Wehmhoff of the Government Printing Office at recent TAPPI meetings.

Conclusion

It is hoped that this outline of the work of the bureau on this important subject will give a general idea of the various directions in which attempt is being made to secure definite information. Much remains to be done before positive statements as to permanence qualities and causes of deterioration can be made. Further results obtained will be published in detail as soon as they are available.

Powell River Buys a Warship

After lengthy negotiations involving the governments of Great Britain, Japan, France and the United States, the Powell River Company has been successful in securing the hulk of a dismantled United States warship to be used as a floating breakwater.

Abe Goldberg of Seattle purchased the cruiser Charleston for junking purposes, but when he tried to sell it to the Powell River Company, a Canadian enterprise, he ran into international complications.

United States authorities promptly refused to sanction the transaction. The proposed sale of even a dismantled cruiser to interests outside the United States gave rise to the suspicion that someone might be planning to renovate the craft as a fighting ship for some smaller nation. Terms of the Navy Treaty were solemnly quoted while the matter was discussed.

Then it was decided to consult Great Britain, France and Japan, three other important naval powers, and it was finally decided that the military value of the cruiser when used as a breakwater at Powell River was practically nil. The deal was approved, and the cruiser towed to its new anchorage.

Powell River Company needs the addition to the breakwater because of the enlargement of its log storage space in consequence of its \$8,000,000 expansion program.

Paper Trade With Australia In Discussion

Problems affecting the interchange of trade within the British Empire, now being discussed at the Imperial Economic conference in London, are expected to result in the confirmation with minor revision of the preferential tariff agreements now in effect between Canada and Australia and New Zealand. These agreements provide for preferential treatment of Canadian newsprint in both the southern dominions and, Premier R. B. Bennett and Hon. H. H. Stevens, of Vancouver, B. C., members of the Canadian delegation, are pressing for a treaty that will open the way for a greater importation of Canadian newsprint in Australia and New Zealand as compared with newsprint from the Baltic countries.

Inasmuch as several Australian newspapers have been forced recently to increase their price to subscribers and others have suspended publication entirely owing to the high cost of production it is not expected that the Australian government will ratify any proposal that will make it any harder for publishers to obtain their supplies of newsprint at a fair price.

Canada is now buying large quantities of Australian fruit, both fresh and dry, and nearly all these shipments are being packed in wrappers manufactured in British Columbia by companies such as Pacific Mills and Westminster Paper Company.

Fifteen hundred men are now regularly employed by the Powell River Company as a result of the recent expansion program. In addition to this payroll at Powell River, Stuart Cameron & Company, general contractors for the Lois River hydro-electric and paper mill installation, is employing several hundred, so that the population of the British Columbia newsprint community is now greater than ever before.

*The Market for Paper***IN CHINA**

With Special Reference to Opportunities for Pacific Coast Mills

As told to PACIFIC PULP AND PAPER INDUSTRY

By HERBERT B. GALLOP

Paper Sales Representative
SHANGHAI, CHINA

MOST of the paper consumed in China is imported from Japan, Europe, the United States, and Canada. Sheet newsprint, hard sized in substance 24, is the largest item and is used not only for printing purposes, but also for wrapping. The c.i.f. price today equals US\$3.00*. Japan is supplying the larger part, with German, Scandinavian and Austrian mills in competition. There are several large Chinese newspapers in the country using news in reels. The two most important are located in Shanghai and their combined monthly requirements run to 1200 tons. They require a substance 30.5. At present they are receiving their supplies from Germany, Finland, Sweden and Japan. The c.i.f. price today for their substance in reels is equal to US\$2.68.

M. G. China Cap, (a ground wood content, glazed one side, tissue) usually ordered in 25x44-16½/500 is the next largest item consumed. This is also supplied principally by Japan, Scandinavian countries, Finland, Germany and Austria. The c.i.f. price today is equal to G\$4.48.

The third item in importance is book paper, wood free, hard sized, in S. C. principally and some M. F. The most used is S. C. in substance ranging from No. 30 upwards. Present c.i.f. price is equal to G\$5.05 for 10% of the weights in substance 30, the balance from substance 33 upwards. Japan, Scandinavian countries and Austria are chief suppliers.

Kraft wrapping is imported in fairly large quantities from Austria, and Scandinavian countries principally. Present c.i.f. price is equal to G\$3.76 for a good quality for 30% of the specifications in substance 22½/480.

Germany supplies practically all of the glassine and most of the coated papers. Their coated papers are offered at present at the equal of G\$7.06.

There is a fair demand for white sulphite Bristol board, and for colored Bristols containing groundwood. Belgian mills usually supply the white and German mills the colors at prices ranging from the equal of G\$5.50 up, according to quality.

There is a very small demand for high grade writings, ledgers, bonds, covers and similar grades.

A fairly large quantity of United States book paper finds its way into this market, but is consumed only by a large foreign firm in Shanghai, who take heavy weights

and buy in quantities that enable them to obtain prices in competition with those quoted by other countries.

Kraft wrapping has been coming in from Pacific Coast mills, but at present their prices are considerably higher than those previously mentioned. Some sheet news and reel news has been imported from the Pacific Coast, but I understand the business has been lost to these mills on account of price.

Strawboard was formerly imported from Japan and Holland, but of recent years the Chinese have started the manufacture of this product and made prices that have stopped the imports from Holland and curtailed the imports from Japan. Chipboard is used by a large foreign firm in China and this is supplied by Pacific Coast mills.

The Chinese use large quantities of native made paper for their accounting books, and writing paper. This formerly was made by hand, principally from bamboo paste or pulp. In recent years two companies have started up near Shanghai and are making an imitation on Yankee machines at a price equal to about G\$5.00 c.i.f. The paper is white or light yellow, laid, soft sized, and made from imported pulp and a grass pulp obtained locally.

White patent coated box boards are imported from Scandinavian, German, Austrian and Japanese mills. The present price is equal to US\$3.93 c.i.f. These mills produce what we in the United States refer to as a white patent coated solid manila back, the color of the coated surface being much whiter than produced in the States. Not only are the prices low, but the sheet is bulked up and yields about 10% more sheetage per ton than the United States mills do. Also, the European and Japanese mills can supply down to .010 without any increase in price.

China consumes about 200,000 tons of paper of all kinds per year, most of which is imported. This entire tonnage may not appear large to some of the larger manufacturing combines in the United States and Canada. However, China is using more and more paper every year and the increase will take place in leaps and bounds. The Scandinavian mills until ten years ago enjoyed the greater share of the business, but of late have been pressed by their European neighbors, but more so by the Japanese, who today are probably the largest suppliers, by virtue of their proximity.

The Japanese have gradually created an industry in the manufacture of Western paper and today have brought many of their qualities up to the standard of the West. They are also manufacturing pulp and paper in China and if they can exercise control in cer-

*Prices referred to in this article are in units of 100 pounds. The current medium of exchange in China is the Mexican dollar—locally known as "Mex"—which has a normal value of about 50 cents in United States gold coin, altho fluctuating considerably in recent years. The prices in US\$ and G\$ quoted in this article refer to United States dollars and Gold dollars and mean the same, being values in American exchange which is on a gold basis.

tain parts of China, Siberia and Saghalien where woodlands are plentiful, they will command sources of wood supply that will make them one of the largest paper manufacturing units in the world in time to come.

The Pacific Coast mills, also by reason of their proximity, should be important in the supply of pulp and paper to the Orient and China particularly. The manufacture of paper in China seems a long way off, that is on a large scale. Sources of raw material are far away from the larger commercial cities and the matter of transportation (one of the most expensive items in China) is one that the Chinese must correct before they can make any effective strides.

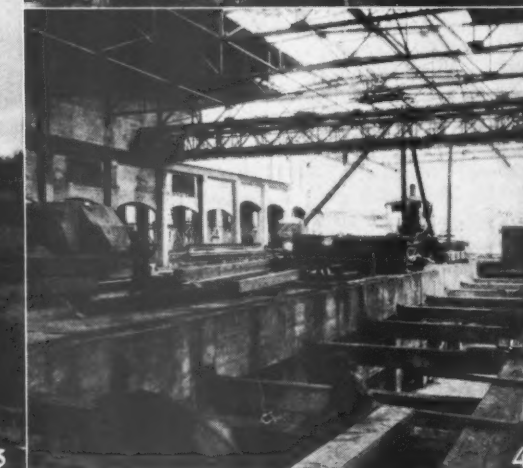
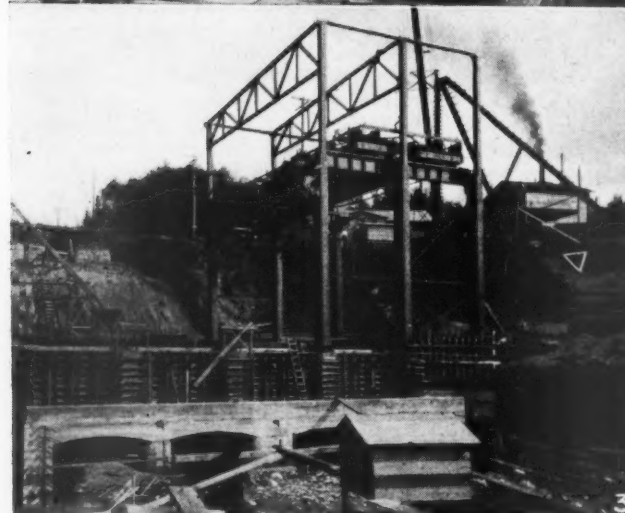
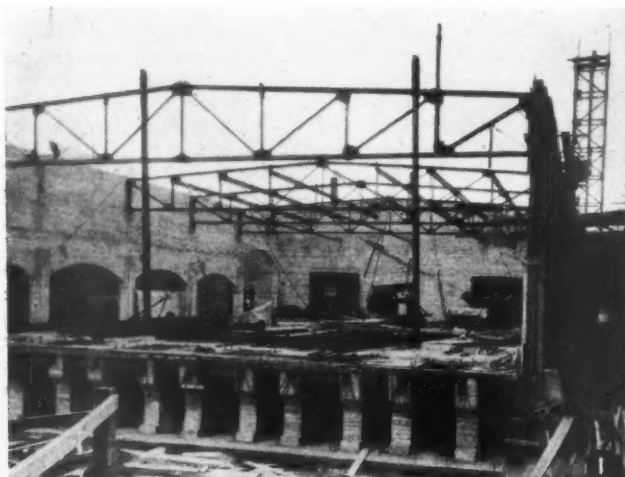
As previously mentioned, the Pacific Coast mills figured in this market on the newsprint business, but apparently today are out of it on account of the low prices from Japan and Europe. The situation is much the same on Kraft. Are the Japanese and European mills going to keep the Pacific Coast mills out of this business?

Ocean Falls to Get Radio Phone

Ocean Falls, B. C., home of the Pacific Mills, Ltd., Crown Zellerbach Corporation's British Columbia subsidiary, will soon be in regular communication with the rest of the world by radio telephone, if present plans are completed.

B. C. Telephone Company is undertaking the job and it is hoped to have it in operation by the end of the year. The company recently provided similar facilities between Powell River and Campbell River, Vancouver Island, which will provide a link for Ocean Falls too, and this line, operated during the summer, has been entirely successful.

Experiments carried on with the Powell River-Campbell River line have given the B. C. Telephone Company a basis on which to work out plans for communication with points not economically accessible by land wire, but it is said to be necessary to proceed slowly in order to obtain the best results.



Work is progressing in all departments of the \$8,000,000 expansion program being carried out by the Powell River Company, Ltd., in British Columbia. Here are four recent views taken both at the mill site and at Lois River, where an 18,000 H.P. hydro-electric project is being developed to furnish addi-

tional power to the mill some 16 miles away. (1) the new grinder room, (2) concrete flow line being constructed between the site of the permanent dam and the entry to the tunnel, (3) the new powerhouse at Lois River and (4) the new machine room which will house machine No. 7.

THE MILL PHYSICIAN

A new slant on

The Electrical Maintenance Engineer*

By R. H. ROGERS

Industrial Engineering Department
General Electric Company*



ONEBODY once said that a man is as old as his arteries. Of pulp and paper mills it can be said that they are as old as their electrical equipment. In man, old age is inevitable, but in the paper industry worn or obsolete equipment can be replaced to prolong the period of active life. In some cases, however, the plant buildings or their location may become obsolete or the product may

no longer meet a popular demand. In such cases no amount of rehabilitation can stave off the end.

One writer recently tersely stated that every plant has two junk piles, one outside the walls and one inside the walls. The size of the inner junk pile can be kept down by the maintenance men whose primary business it is to keep things from happening. Only slightly less important is their function of recommending modernization for no one in the organization is in better position to see what is needed and when it is needed to hold obsolescence down to a figure that will insure a reasonably long life for the plant.

Suppose some major equipment is put in today and that it is the best procurable for the purpose—call that par or 100. Depreciation starts immediately, but its progress will be slow or fast according to the diligence of the maintenance forces—to check it to a standstill is impossible. In a period of ten years its condition may be called 90 or ten below par. In the meantime that class of equipment has been improved and a competitor installs it. That equipment may well rate 140 on the old basis or 50 points better than the ten year old equipment that is still going strong.

Obsolescence has gotten in its work four times as fast as depreciation. Electrical maintenance men should keep a sharp eye on this phase of plant ageing and should, by letter and sketch, make pertinent suggestions on ways and means to keep up perpetual rejuvenation.

Electrical men connected with pulp, paper and board production are in a strategic position to foster modernization at least to the extent of making it possible for

a plant to hold its own and in many cases keen concerted action on the part of the electrical forces have shoved an institution up among the leaders in its line.

That is the broad view to take: know what is the best, what trends are, press relentlessly for modernization, install conscientiously and maintain intelligently.

Maintenance may be of the "main-strength" type where without question the same sort of repairs are made over and over on the same units. They are kept going, it is true, but at high cost. We are prone to become "mill-blind" unless we specifically guard against it. Shop troubles can repeat themselves until we are calloused to them and we assume without question the routine of making certain repairs or replacements periodically.

An instance comes to mind where bearings were repeatedly replaced in an induction motor driving a chipper. A belated investigation showed that an untrained night man was using improper starting methods and tightening the belt nearly every night to stop belt-slip at starting.

Intelligent maintenance implies that thought will be given to the cause of every failure which leads to maintenance expense. The unit in trouble must be studied first and if no cause is apparent the search must extend both ways from the trouble point until the cause is run down and eliminated once for all.

OLD MAN OBSOLESCENCE NEVER TAKES A VACATION

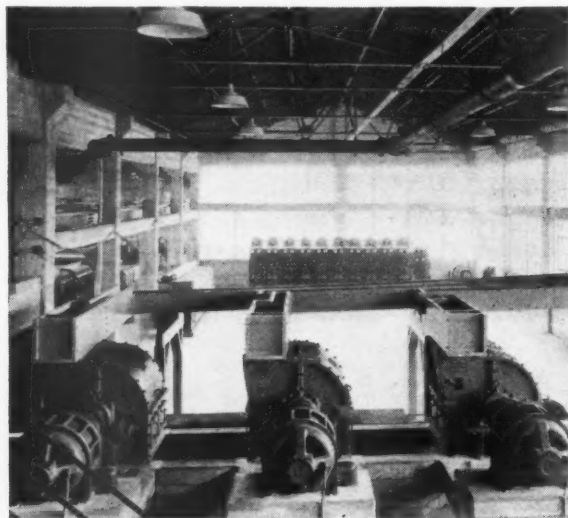
¶ He's down there at the plant days, and he's there nights. Also Sundays and holiday shutdowns. And he works four times as fast as just plain ordinary Depreciation. ¶ As a matter of fact, the accelerated pace of scientific and engineering development has elevated the economic importance of old man Obsolescence. He's there in your mill, even if you didn't invite him. ¶ The executive, manager, superintendent, department head and everybody right down the line will find it worth their while to read what Mr. Rogers has to say in this article.

This latter procedure is especially applicable to electrical equipment. Take, for instance, a case of motor trouble, perhaps the second occurrence. A study of the motor should include its starting duty, peak loads, average heating load, power factor and general behavior. If the motor has the proper characteristics for its work the examination should narrow down to physical and electrical conditions.

If the cause of the trouble is not found here the investigation should be extended to the driven load to

*Written expressly for PACIFIC PULP and PAPER INDUSTRY.

determine if erratic conditions can occur to throw destructive loads on the motor. The power supply and control items should be investigated. Some inexperienced person may be mishandling the equipment. The control equipment may not be adapted to the application. Voltage dips from some remote cause may be the offending item as in one mill where poor power factor and heavy starting load caused a remote induction motor to shut down a synchronous motor through voltage dip perhaps one time in four starts. Much attention was given to the present motor when the fault lay in electrical conditions and starting conditions in the chipper building.



G-E synchronous motors coupled to shredders in the Fir-Tex Insulating Board Company's recently completed mill at St. Helens, Ore.

Periodic studies should be made of electric power equipment because improvements are being made all the time by manufacturers and a type of equipment unsuited to a job five years ago may be the ideal unit today, while on the other hand the accepted standards of a few years ago are obsolete now and newly fitted out plants are being benefited by the improved designs and higher standards of the present.

Any motor or control over five years old should be coldly scrutinized for present day fitness so rapid has been electrical design progress.

How is the management to know when to modernize or how except by the suggestions of those closely in touch with things as they are and as they should be?

Don't be complacent. Don't be satisfied with things as they are. Competitors are not. Have ideas about improving electrical conditions. Push them, put them, put them in writing, in sketches. Many schemes teeming with potential benefits have died in the heads or desks of the schemers because they were not brought out forcibly enough. Some may be too modest to bring their notions to those higher up, while others become discouraged at the first belittling comment. Worst of all is the "main strength" maintenance man who takes the attitude that he is not being paid to improve conditions and maintains that he is there simply to keep things running as they are.

Some of the trends in electric practice that are most responsible for obsolescence in existing equipment may be summarized to advantage.

Synchronous motors have been so improved, particularly in starting characteristics that they are now freely applied where but a few years ago induction motors were used. Synchronous motor control has also been improved in many ways, among which are the prevention of stalling on undervoltage, etc.

Full advantage can be now taken of the power factor improving characteristics of synchronous motors together with their inherent adaptability to low speed drives. The substitution of synchronous for induction motors at certain key points in plants has materially helped the normal operation of all the other electric apparatus and has made it possible to add much needed motor loads within the heating capacity of existing transformers and feeders. Synchronous motors in grinders may hold the plant power factor at unity, but that does not help the local feeder systems about the mill where the power factor may be as low as 0.70.

Time delay undervoltage relays on all large motors are helping to maintain continuity of service. They allow motors to coast through voltage dips of short duration and save wear and tear on the whole system, which results from wholesale restarts after a momentary outage.

The wide and growing use of generator voltage (Ward Leonard) control for d-c motors in the presence of a-c supply has done much to reduce maintenance and increase production. It is agreed that a d-c machine may have a higher maintenance cost than that of squirrel cage induction motor, but considered overall, control, motor and driven machine, lowered maintenance cost is often the determining factor in favor of the d-c generator voltage control system.

This statement, of course, applies only to such duties as call for the characteristics of this type of drive. An example is the sectional paper machine drive which is almost universally driven in this manner. The machine

¶ After all, there's a lot of point to that mossy old wheeze about the railroad man who had been tapping car wheels for twenty years, yet couldn't tell the president of the road why he was doing it. ¶ Just like we look in the mirror every now and then to check up on grey hairs and wrinkles, so the maintenance man could stand an occasional analysis. ¶ If his main business is merely toting around an oil can and a monkey wrench is he doing full justice by the payroll?

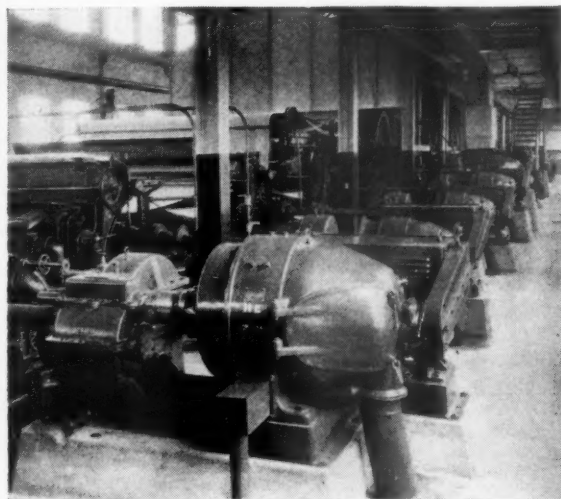
is driven faster and with less lost time and less maintenance cost by d-c motors under generator voltage control in spite of the fact that there is much more electrical equipment required than for single motor back line drive.

Among minor items are the more general use of indestructible one-piece winding for squirrel cage induction motors; improved bearings which have longer life and furnish better protection against the transfer of

oil to the windings; and the general practice of extra bracing of coils to withstand the stresses of full voltage starting.

The practice of full voltage starting of motors has been extended to very large sizes, 3000 H.P. in one case and very commonly to 500 H.P. This practice involves simpler starting devices and consequently less maintenance—provided the driven machine does not suffer from the mechanical shock that the quick start may inflict upon it. And even this drawback is overcome by the super synchronous motor which tho started on full voltage can be made to take 20 seconds to bring the load up to speed.

Standard listed motors today are better protected from water, humidity, acid and alkali fumes and abrasive dusts than were the "special" motors of a few years ago. Research in these matters has resulted in the production of age resisting insulations and better manufacturing procedure, thus producing better all-around units for all classes of electrical service.



G-E sectionalized drive showing back side of paper machine, Everett Pulp & Paper Co.

Lightning protection has been the subject of much study and progress in keeping with the efforts expended have been made. Today, for instance, the modern self protecting transformer is practically lightning proof and outages from lightning surges are becoming more and more rare.

Improvements in the designs and construction of electrical units have carried with it corresponding improvements in spare parts especially so in the case of insulated parts which can now be kept in stock for long periods without marked deterioration.

Power factor improvements present one of the most fertile fields for inside investigation. Additions, transfers and substitution of units can be plotted graphically to determine the effective means for power factor improvement with little expense. By such procedure one may find ways to better electrical conditions within the plant and often advantage can be taken of the power factor clause in the power contract.

Means for improving power factor are found in the use of high speed fully loaded induction motors, synchronous motors of unity or leading power factor, capacitors, or synchronous condensers. Simple automatic means are available for holding a predetermined power factor in a plant thru thick-and-thin. Economies by power factor improvement are well worth trying for because once in effect they accumulate to the advantage of the plant day and night, year in and year out.

Electrical men are thoroly familiar with the ordinary problems of installation and maintenance. Instructions and standard practice take care of most of the troubles that arise. It would be superfluous to urge these experts to be sparing of oil, to blow the dust out of electrical machinery, to check air gaps and to carry on the thousand and one services that are conducive to continued operation.

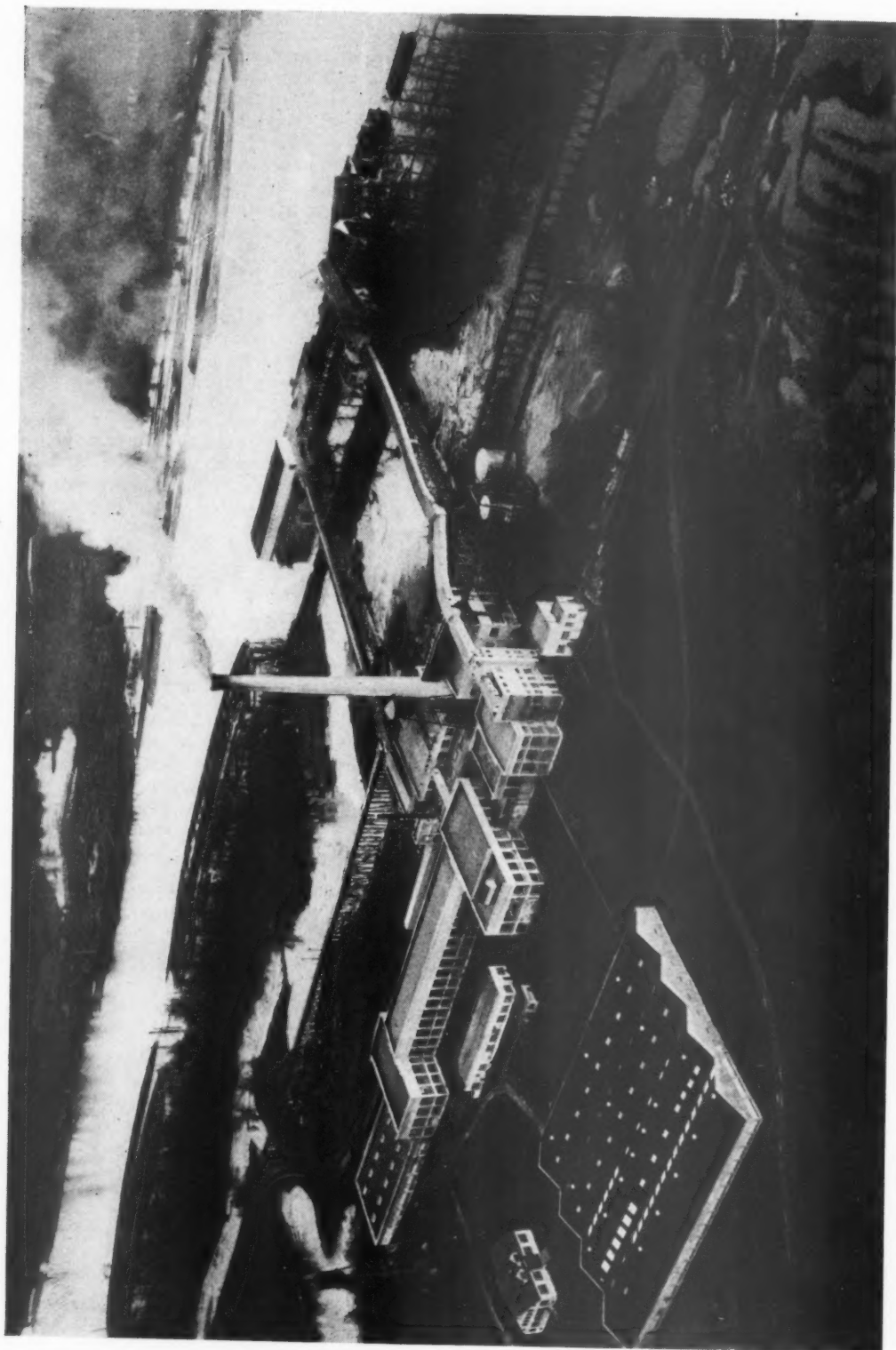
On the other hand, if a broader spirit of scrutiny, which makes each unit prove its own merit, can be popularized, something worth while will have been accomplished. Therefore approach each unit in the plant as tho it were a perfect stranger, imagine meeting it for the first time, look up its past records. Trade units around so that there will be fewer "square pegs in round holes." Make everyone miserable up the line until the wrong things are made right. Thus electrical maintenance men may be most instrumental in keeping the mill at least up to its present status with competitors.

While Lewis Carrol put a lot of nonsense in "Alice in Wonderland" and in "Thru the Looking Glass," he forcefully brings to mind certain fundamental truths. Alice and the Black Queen had been running at top speed hand in hand for some time and then sat down under a tree to rest. Alice said, "I believe we are still just where we started from. In my country, when we run we get somewhere else". The Black Queen said: "In this country, we have to run as fast as ever we can to stay in the same place. If we want to get anywhere else, we have to run twice as fast as that."

Well, that is about the situation in our pulp and paper mills, for only strenuous effort, long sustained, will hold the mill in a commanding position.

¶ In these days of maladjustment of production and consumption, costs and selling prices, there is more than ever a need for intelligent operation.

¶ That intelligence implies an attitude of mind which accepts nothing as impossible of betterment, demanding the best in machinery and men, in full realization that in times of economic duress the law of survival of the fittest is administered with greater stringency.



Brubaker Aerial Surveys, Portland

The kraft mill of the St. Helens Pulp & Paper Company, at St. Helens, Oregon, is adding 202-inch paper machine.

St. Helens Pulp & Paper Company

Will Add 202-Inch Lightweight Paper Machine

Company Will Expand Its Line of Kraft Specialties

IT might be said that ever since the St. Helens Pulp & Paper Company turned out its first pound of paper there has been a rumor that the company would add a second paper machine. At last the rumor has borne fruit.

Work has been started by the Guthrie Construction Company on an addition to the machine room to house a new machine having a 202-inch wire. The mill is so arranged that the extension of the present machine room is an easy matter.

The machine will be thoroly modern and embody some refinements of recent development. Beloit Iron Works is building the machine. It will be their second installation at the St. Helens mill. A rope drive, similar to that used on Machine No. 1, will be employed.

While not specifying in detail what grades of paper are to be made on the new unit, President Max Oberdorfer states that it will be used principally for light weight papers of about 10 pounds.

The St. Helens company has from the start established a wide reputation for high grade kraft paper of the more common grades, the entire output of which has been marketed thru the Graham Paper Company of St. Louis. A considerable portion of this tonnage has been absorbed by the company's own paper bag factory, which is an outgrowth of the purchase of the California Bag & Paper Company, and the removal of that company's plant, after the purchase, from Emeryville, California, to a new daylight bag factory adjacent to the St. Helens mill.

More Specialties

Another substantial outlet for the St. Helens tonnage has been thru the adjoining plant of the Jaite Bag Company, which manufactures a line of multi-wall, heavy duty bags for cement and similar bulk products.

Within the past year the St. Helens mill has been gradually working away from a straight production of common kraft grades and has turned its attention to specialties. It has developed some bleached kraft specialty papers, one popular number of which has been given the coined name of Kranila kraft. This sheet is now being used effectively by the company for its letter-heads.

With only one machine, President Oberdorfer points out, the production of specialties has been somewhat handicapped. The new machine, which will not have a very large tonnage in spite of its size, due to production of light weight papers, will permit the company to produce a more complete line of kraft papers.

The other parts of the mill will remain about the same. One small digester is being added, but the mill is now producing a surplus of pulp, according to Mr. Oberdorfer, and the new machine will provide a balance

to absorb this surplus, and will also, of course, effect a reduction in manufacturing costs.

Some months ago the mill extended its beater room and installed six new beaters. It also effected other improvements in its recovery plant and other departments. The new machine is expected to provide a well balanced mill thruout.

The St. Helens mill, which began production in late 1926, now has one 164-inch Beloit paper machine. The mill has a rated daily capacity of 60 tons, but its actual production is considerably above that figure most of the time.

Bartlett Visits Hooker Chemical Plant

E. R. Bartlett, vice president and works manager of the Hooker Electrochemical Company is again on the Pacific Coast for a visit of several weeks duration. He came by the way of Los Angeles to inspect the company's caustic soda plant there, and will now spend several weeks at the company's fine plant at Tacoma, Washington. Mr. Bartlett is the man who built the company's huge plant at Niagara Falls, N. Y.

A recent addition to Hooker's Tacoma staff is Thomas E. Moffitt, who will augment the group of technically trained men who contribute to Hooker service. Mr. Moffitt is a graduate of Cornell.

Norman Joins Sumner Iron Works

Sigurd Norman, for the past two years or more superintendent of the Spaulding Pulp & Paper Company's 75-ton sulphite pulp mill at Newberg, Oregon, has resigned to join the Sumner Iron Works, Everett, Washington. Mr. Norman will lend his experience to the Sumner company in the production of pulp and paper mill equipment. The Sumner Iron works is an old established firm well known for its production of logging and lumbering machinery, but in more recent years has been developing a line of pulp and paper mill needs.

Another TAPPI Man for the Coast

Axel Klingberg has resigned from the Thilmany Pulp and Paper Company of Kaukauna, Wisconsin, and is now chief chemist of the Puget Sound Pulp and Timber Company of Everett, Washington.

N. W. Coster, for three years chemist at the Anacortes mill of the Puget Sound Pulp & Timber Company, has been transferred to the new Everett mill of the same company. G. A. Sundblad of Everett is now in the position vacated by Mr. Coster.

Speaking of News Print

Pacific Coast quotations of \$58 per ton and disintegration of Canadian Institute indicate unsettled condition of the industry

POWELL RIVER COMPANY, LTD., British Columbia's premier newsprint manufacturing company, with Blake, Moffitt & Towne, Coast-wide distributing chain operating 17 branches in the Western states, jointly announced on September 20 that the former was entering the Pacific Coast territory "actively" to solicit newsprint business and that the latter would act as selling representatives and were entertaining newsprint contracts at \$58 per ton, delivered principal Pacific Coast ports, for the balance of 1930, with a guaranteed maximum of \$60 to prevail to the end of 1933.

Crown-Zellerbach Corporation, principal competitor of Powell River for Pacific Coast newsprint business, promptly met the new quotation and assured protection of existing contracts on the new basis.



E. A. DORAN
Vice President
BLAKE, MOFFITT
& **TOWNE**

The \$58 quotation represents a shading of \$5.50 per ton from the existing contract rates of \$63.50 per ton established on the Coast about a year ago by Crown-Zellerbach.

The Powell River announcement, signed by A. E. McMaster, general manager, sent to Western publishers, said in part:

We desire to announce to the publishers on the Pacific Coast our decision to enter this field actively and solicit the newsprint business in that territory.

The newsprint mills of the company are located at tidewater, Powell River, British Columbia, 72 miles north of Vancouver, B. C. Our mills are entirely modern and are producing over 500 tons of high-grade newsprint daily. An addition to the plant will be completed on January 1, 1931 and our capacity will then be increased to 650 tons per day, at which time we shall have invested in the properties over \$30,000,000 and have no bonded indebtedness. Provisions have been made for a further expansion program which will be undertaken by the company when market conditions warrant.

The Powell River Company commenced the manufacture of newsprint paper 20 years ago and has operated continuously since that time, expanding from an original two-machine paper

mill to a seven-machine mill. The company is closely controlled by a small group in Minneapolis, Minnesota, which has no affiliations with or interests in other mills or groups of mills, and consequently is entirely independent in its policies.

We are glad to announce that we have arranged with Blake, Moffitt & Towne to act as our distributors and selling representatives on the Pacific Coast.

The announcement to publishers issued coincidentally over the signature of E. A. Doran, vice-president of Blake, Moffitt & Towne, San Francisco, in addition to declaring its new relation with Powell River as "direct mill selling agents" on the Pacific Coast, gave the details of the \$58 price quotation as follows:

We are now prepared to engage in contracts covering your newsprint requirements for the balance of the year of 1930 and for the year of 1931. We are quoting contracts on the basis of \$58.00 per ton for rolls in carload shipments, net cash 30 days, f. o. b. mills, less insurance and full freight allowance by water shipment to the ports of San Francisco, Wilmington, San Diego, Portland, Seattle, and Tacoma.

We are prepared to discuss longer term contracts; that is, three-year contracts on the basis of a definite price of \$58.00 per ton for the years of 1931 and 1932 and a guaranteed maximum price of \$60.00 per ton for the year of 1933. The price for 1933 to be adjusted in accordance with the mills' general price on the Pacific Coast for that year, but in no event to exceed \$60.00 per ton.

Blake, Moffitt & Towne in another letter issued at the same time made a "Statement of Policy Governing Newsprint Contracts." This statement covered four principal points, which, in brief, were (1) no attempts to influence publishers to break contracts, (2) no secret rebates or concessions, (3) no contract extensions based on reductions to which purchaser would ordinarily be entitled and (4) readiness to cover 1932 and 1933 contracts on present quotations where contracts to end of 1931 now exist.

Commenting on the \$58.00 price, Mr. McMaster stated to Pacific Pulp and Paper Industry:

"The price of \$58 has been arrived at after a great deal of study and discussion and with regard to conditions prevailing in the newsprint industry throughout the country. We have not overlooked the fact that there has been a lessening of newspaper revenues due to a general curtailment of advertising. Nor have we failed to give consideration to world competition and the general economic situation. We regard \$58 as a fair price to all concerned."

Mr. McMaster also pointed out that Powell River has been supplying newsprint to a number of large publishers in the Pacific Coast states for a number of years, but that it has been without a direct selling agency in the territory.

Powell River's connection with the George F. Steele Company, New York, which has represented the British Columbia firm in the Eastern states and some export markets, is not affected by the new sales arrangement with Blake, Moffitt & Towne.

Crown-Zellerbach Corporation has in its control a daily production of 950 tons of newsprint, divided between three mills, namely: The Washington Pulp & Paper Corporation at Port Angeles, Washington (a subsidiary of the Zellerbach Corporation before the Crown-Zellerbach merger); the West Linn, Oregon, mill of the Crown-Willamette Paper Company; and the Canadian subsidiary at Ocean Falls, B. C., the Pacific Mills, Ltd.

The new \$58 quotation applies only to Pacific Coast business and has no bearing on a considerable export business done by both the Crown-Zellerbach Corporation and the Powell River Company. Louis Bloch, chairman of the board, Crown-Zellerbach Corporation, queried as to the corporation's anticipated dividend policy on its common stock as a result of decreased earnings, pointed out in the financial press that this decrease had largely been over-estimated through failure to take into consideration this export business.

Powell River has long enjoyed a large export market in Australasia, the Orient and in South and Central American countries.

Officials of the Powell River Company regard the Pacific Northwest as the natural source of the newsprint consumed in Australasia, and for that reason believe that as conditions in the newsprint market in the East and in Europe adjust themselves, the Pacific Northwest will ultimately receive about 100 per cent of the newsprint business from that territory.

Upset in Eastern Canada

Except in an indirect way the Coast newsprint situation is not expected to affect conditions in the eastern field, where the situation has been thrown off its balance considerably by the resignation of Colonel J. H. Price as chairman of the Canadian Newsprint Institute. Colonel Price's reasons for withdrawing were that certain companies affiliated with the Institute had violated their agreement in respect to prices and pooling of business and that the Institute was powerless to deal with the problem. His own company will pursue an independent course hereafter.

Advices from eastern Canada were to the effect that a period of price-cutting would follow the action of Col. Price. Two years ago the Hearst interests signed a contract for five years with the International Paper Company. Only one-third of the Hearst requirements was involved in the contract, enabling Hearst to place his surplus requirements where he pleased. A few days ago Hearst purchased a large stock interest (said not to exceed 20%) in Canada Power & Paper Corporation, the largest producer of newsprint in Canada.

It was reported that the \$55.20 price set by the institute had been shaded somewhat by Canada Power in a new contract drawn up with Hearst and that this would lead to a general breakdown in prices. Price Brothers & Company, Ltd., is a low cost producer and would be in a good position to wage a strong fight for a greater share of business at a reduced figure. Col. Price is the head of Price Brothers & Company, Ltd.

It is not believed that the mills can afford to go much lower than the \$55.20 now listed as the price at the mill.

Some expect further tendency toward mergers in the pulp and paper industry. In view of the large financial groups involved and the variety of interests to be served, amalgamation and consolidation are inevitable, many believe.

At the same time a large scale continuation of the policy of publishers' buying into newsprint companies

is not generally anticipated. In the first place, when newsprint is obtainable so cheaply, why should a publisher be anxious to add to his responsibilities that of owning a paper mill? Hearst has bought into paper mills. So has Rothermere, the Chicago Tribune, New York Times and a few other large newspaper interests, but as a general rule newspaper publishing and newsprint manufacturing industries no doubt will remain independent of each other. The requirements of the two industries are too vastly apart to justify a permanent joint ownership except in a few special cases.



The new diesel-powered tug, "Hamlin"

New Tug To Handle St. Helens Fuel

Named after Hamlin F. McCormick, head of the McCormick Lumber Company and affiliated interests operating in St. Helens, Oregon, the new 160 H.P. diesel-powered tug "Hamlin" has gone into commission to handle hogged fuel barges for the St. Helens Pulp & Paper Company, at St. Helens, on the Columbia River. Mr. McCormick is also chairman of the board of the paper mill company.

Prince George Project Still Alive

Principals in the negotiations for establishment of a large pulp and paper mill at Prince George, British Columbia, are expected to visit the Coast this month, according to Hon. F. P. Burden, provincial minister of lands, who has been keeping closely in touch with developments.

"This project has been hanging fire for years, due to one thing or another, but I think things have reached that point where a definite conclusion, and that a favorable one, may be almost momentarily expected," said Mr. Burden.

Prince George mill negotiations have been delayed by market conditions, financial difficulties, death of one of the men prominently concerned, and several other factors. The unnamed capitalists at present interested in the proposition have an option which expires at the end of October.

J. D. Zellerbach on Wells Fargo Board

J. D. Zellerbach, executive vice-president of Crown Zellerbach Corporation, has been elected a member of the board of directors of Wells Fargo Bank and Union Trust Company, San Francisco.

Mr. Zellerbach is also president of National Paper Products Company and Fibreboard Products, Inc., and vice-president of Northwestern Power and Light Company, Washington Pulp and Paper Corporation, Rainier Pulp and Paper Company and Grays Harbor Pulp and Paper Company.

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of the
COLUMBIA PAPER CO.
is being congratulated
on the organization's
new building.



Vancouver Jobber In New Building

Columbia Paper Company, one of the largest wholesale distributing houses in Western Canada engaged in the paper trade, is now making itself comfortable in its new home at the corner of Homer and Nelson streets, Vancouver, B. C. President C. J. Kay proclaims the new six-story building to be one of the most modern in design and equipment on the Pacific Coast. Sixty-three thousand square feet of floor space are available.

The ground floor is devoted to the offices and display room, the latter being ideally laid out for the effective display of samples.

The building is equipped with the Paragon system of communication tubes which links up all departments. There are two powerful electrically equipped elevators of 4,500 pounds lifting capacity, and in addition a dumb waiter. The whole system has been planned and laid out with the idea of expediting business.

Columbia Paper Company was organized in 1911 by Mr. Kay and K. A. Smeed and has made steady progress until now its territory includes all of western Canada as far east as Winnipeg. Mr. Smeed is vice-president and George H. King, secretary-treasurer. H. G. Miller is assistant manager and C. H. Dennis, sales manager. Thomas Scott, the company's first employe, has charge of the company's Victoria office.

Cochran Joins Bonestell in San Francisco

Andrew H. Cochran, formerly Pacific Northwest sales representative for the Cascade Paper Company, has moved from Tacoma to San Francisco and has joined Bonestell & Company, pioneer California paper jobbers, as a book paper expert. Mr. Cochran will call on the publishing industry and others who buy high-grade book papers.

Mr. Cochran succeeds Fred O. Dunn, who left Bonestell's recently, after serving about 15 years as a salesman, to joint with C. C. Harris, another Bonestell man, in the new firm of Dunn & Harris, manufacturing stationers.

Jaggard With Grays Harbor-Hammermill

When the Cascade Paper Co. recently went out of business, B. P. Jaggard was sales manager with offices at San Francisco. Mr. Jaggard was not out of harness very long, for his services were almost immediately spoken for by the Hammermill Paper Co., of Erie, Pennsylvania, and the Grays Harbor Pulp and Paper Co., of Hoquiam, Washington, and he is now doing sales and promotion work along the Coast for these affiliated mills. Mr. Jaggard's offices are at 311 California Street, San Francisco.

Californians Attend N. P. T. A.

Several Californians were among the delegates at the 1930 convention of the National Paper Trade Association held at the Stevens Hotel, Chicago, October 6, 7, 8. Among those attending were Charles Kahn, San Francisco, secretary Pacific States Paper Trade Association, and Harold Zellerbach, president of the Zellerbach Paper Company, and Eugene Breyman, vice-president of the same firm.

Notes From the Los Angeles Trade

J. Y. Baruh, vice-president of the Zellerbach Paper Company, stationed at the Los Angeles division of the firm, accompanied by Mrs. Baruh, has left for an extensive cruise through the Panama Canal to Bermuda.

* * *

George I. Tompkins, Sierra Paper Company, Los Angeles, recently returned from a vacation in the Pacific Northwest, during the course of which he visited the Everett Pulp & Paper Company's mill at Everett, Washington.

* * *

August Johnson, salesmanager, Everett Pulp & Paper Company, with headquarters in San Francisco, was a recent visitor to the Los Angeles trade.

* * *

George Olmsted Jr., S. D. Warren Paper Co., Boston, Mass., visited Los Angeles recently.

New Los Angeles Paper Distributor

Buckley Lynch Paper Company, Ltd., 434 South San Pedro street, Los Angeles, was formed recently and is carrying a general line of printing papers. President of this newest formed Los Angeles paper company is E. W. Buckley, formerly vice-president and manager of the General Paper Company, Los Angeles.



E. W. BUCKLEY
Organizes new
paper distributing
company

Mr. Buckley started with the Western Pacific Paper Company in Los Angeles in 1923, which, in 1929 combined with the General Paper Company. Previous to that connection Mr. Buckley was with the Western Newspaper Union for twelve years as manager of various branches and for a time he was manager of the Western Paper Company, Omaha, Nebraska.

C. N. Lynch, another member of the firm, was formerly manager of the fancy paper department of the Western Pacific Paper Company. Previous to that connection he was vice-president of the La Salle Paper Company, Chicago, and before that he was manager of the announcement department of the American Writing Paper Company, Holyoke, Massachusetts. Prior to that he was purchasing agent for paper and printing for the General Electric Company, Schenectady, New York.

The Buckley-Lynch company have spacious offices, and warehouse room, in the heart of the Los Angeles wholesale district. They have started with eight salesmen. In the first announcement sent out by the company outlining their policy they gave their terms as 2% thirty days, 60 days net, and 61 days C. O. D.

Now Federal Barge Lines

The government owned and operated fleet of barges on the Mississippi River and tributaries, formerly operated as the Mississippi-Warrior Service, has changed its name to Federal Barge Lines. The new name is more descriptive of the actual service provided. The barge service has expanded rapidly in recent years and has been of interest to the Pacific Coast as an all-water route of increasing potentiality from Coast mills to consuming centers in the Mississippi Valley.

Two More TAPPI Members On Coast

Secretary R. G. Macdonald of TAPPI reports two new additions to the association roster on the Pacific Coast. They are H. A. Vernet, sales engineer of the Oliver United Filters, Inc., of San Francisco, and J. D. Hull, consulting engineer, with offices at 353 Colman Building, Seattle.

Coast Business Better Than Average

Decline in the paper business of the west has been less than throughout the nation, according to "business average" statistics gathered by the Pacific States Paper Trade Association and compared with similar figures compiled by the National Paper Trade Association.

Charles Kahn, San Francisco, secretary of the Pacific States Association, says the data gathered by the Coast body comes from nearly 100% of the paper industry and is truly representative.

Columbia River Paper 1930 Earnings Decline

Columbia River Paper Mills, the F. W. Leadbetter property at Vancouver, Washington, showed a net profit for first 8 months of 1930 of \$128,275. This is after all charges including Federal taxes, bond interest, and a depreciation charge of approximately \$120,000. This net is at the rate of about \$16,000 a month, or at the rate of \$192,000 a year. Since net for 1929 was \$343,988, earnings for 1930 appear to be slightly more than half of the previous year.

The annual dividend requirements on the Columbia River Paper Mills' \$750,000 of 8 per cent preferred stock is \$60,000. It appears therefore that 1930 dividends have already been earned twice this year.

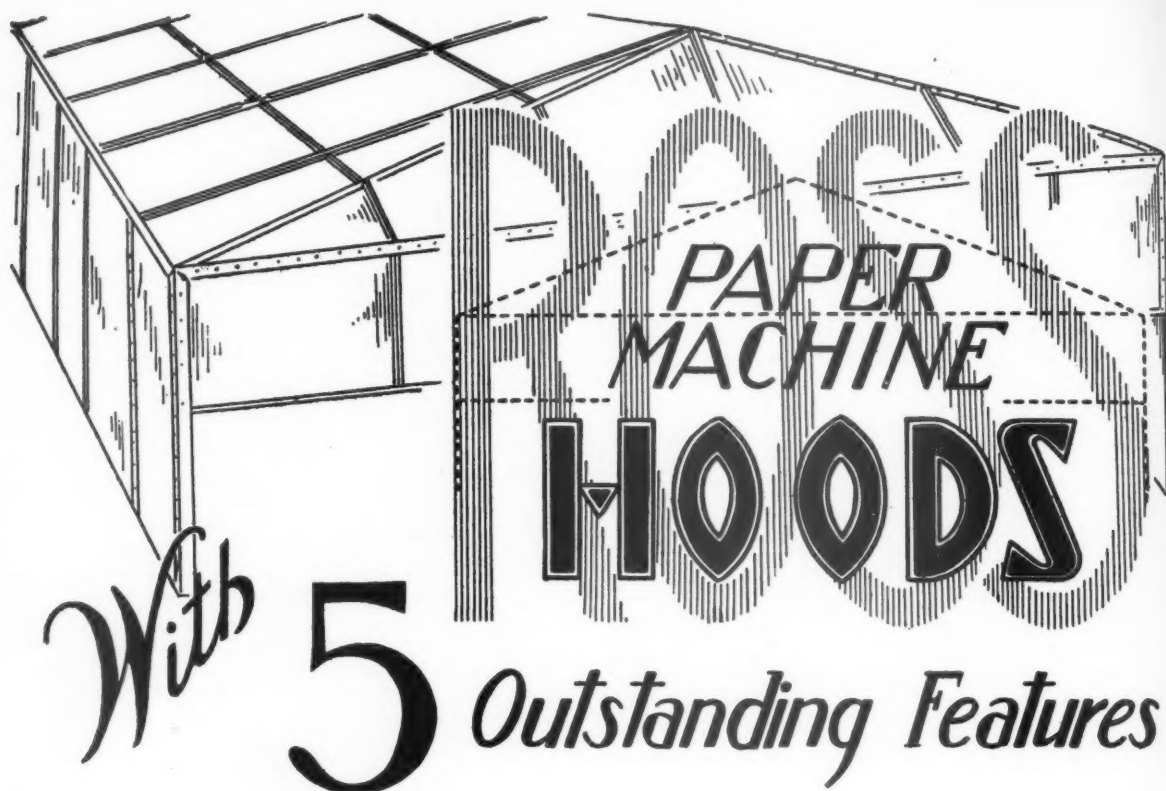
On September 26 the company through a letter signed by F. W. Leadbetter, offered preferred stockholders opportunity to subscribe to 1,000 shares of 8 per cent preferred (\$100,000) at 95, or \$5 less than par. Since all authorized Columbia River Paper Mills' preferred is outstanding, some readjustments within the company are indicated.

Condensed balance sheet of Columbia River Paper Mills' as of Aug 31, 1930, is as follows:

ASSETS			
Properties		\$3,363,976	
Investments		1,438,355	
Due from affiliated companies		295,497	
Current—			
Cash	\$ 97,887		
Receivable	471,761		
Inventory	430,543	1,000,192	
Deferred debits		71,965	
Total		\$6,169,987	
LIABILITIES			
Capital stock—			
8 per cent Pfd.	\$ 750,000		
Common	2,000,000	2,750,000	
1st Mtg 6 per cent Bonds		880,000	
Current—			
Payables	\$348,664		
Taxes, wages, etc	62,137	410,801	
Reserves—			
Depreciation	\$753,026		
Bad debts	5,414		
Taxes	45,399		
Discounts, etc	38,631	842,472	
Surplus		1,286,713	
Total		\$6,169,987	

Japan's Wood Pulp Imports

Japanese imports of chemical wood pulp in July, 1930, were as follows (quantities stated in pounds): U. S. A., 930,267; Germany, 911,067; Sweden, 1,553,867; Norway, 1,869,067; Canada, 8,211,066; France, 82,933; Sundries, 119,866; total, 13,678,133.



**Some of the Mills Equipped
With Ross Hoods**

Albemarle Chesapeake Co., Inc.
 *Champion Paper Corp.
 Congoleum Nairn, Inc.
 *Crocker Burbank & Co.
 Draycott Mills, Inc.
 Eastman Kodak Co.
 Hollingsworth & Vose Co.
 International Paper Co.
 Island Paper Co.
 P. H. Glatfelter Co.
 *Maine Seaboard Paper Co.
 Marshall Bros., Inc.
 Monadnock Paper Mills
 Moyer & Pratt
 *Oxford Paper Co.
 Puget Sound Pulp & Timber Co.
 *Reading Paper Mills
 Schmidt & Ault Paper Co.
 Schweitzer, Peter J., Inc.
 Scott Paper Co.

* Now in process of construction.

Providing all the obvious advantages of using paper machine hoods and at the same time eliminating all heretofore existing objections to their use, the Ross removable panel hoods are acclaimed as a noteworthy achievement. The reasons for the enthusiastic endorsement already accorded them are found in their five major advantages, namely: (1) Built of structural steel and Johns-Manville Transite Asbestos lumber—fireproof, moisture and acid resisting with maintenance costs being practically negligible; (2) Panels and drop curtains built complete in our shops before shipment greatly reducing usual erection time and labor costs; (3) Designed for erection without interference with normal operation of machine; (4) Construction and assembly permits removing or reassembling of any one or more panels without disturbing balance of hood; (5) Provide wide overhang and deep drop curtains on hinges or hooks to permit lifting up or removing for quick access to dryers and rolls.

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HEATING—VENTILATING—DRYING

When writing to J. O. ROSS ENGR. CORP. please mention PACIFIC PULP & PAPER INDUSTRY

Effects of Waste Black Liquor

A condensed report of a study made to determine the effect of sulphate pulp mill pollution upon the early stage of Chinook salmon and means of prevention by disposal methods.

By H. W. NIGHTINGALE, State Sanitary Engineer
and V. L. LOOSANOFF, Assistant Biologist
Washington State Departments of Health and Fisheries

IN an attempt to determine the effects of black liquor from sulphate (kraft) pulp mills, lost before or during the recovery process, upon early Chinook salmon, H. W. Nightingale, state sanitary engineer of Washington, and V. L. Loosanoff, assistant biologist, Washington state department of health and fisheries, performed several experiments using the facilities of the Green River Hatchery at Auburn and black liquor furnished by the St. Regis Kraft Company of Tacoma.

As a result of these experiments, shown conclusively in the accompanying tables, the experimenters point out the necessity of the use of efficient black liquor recovery processes in all sulphate pulp mills located on streams and estuaries. Dilutions higher than 1 to 15,000 should be maintained at all points in the vicinity of the waste outlets from such mills.

With practically no recorded information to guide them, Mr. Nightingale and Mr. Loosanoff began their experiments with arbitrarily chosen dilutions. They took samples of wash water containing black liquor during a day's run at the sulphate mill in Tacoma.

The black liquor of 1.11 density was diluted with hatchery water in a barrel provided with constant head feed. The diluted liquor was applied to a water flow of

2.5 gallons per minute in a standard hatchery trough. Dilutions of 1/1000, 1/3125, 1/6250, 1/9375, 1/10,000 and 1/15,000 of the 1.11 density black liquor were used. These dilutions ranged from approximately twice to 30 times the average of 1/485 as discharged during the day's run at the sulphate mill.

After exposure to the diluted black liquor for periods from one to three weeks, the fish and eggs were placed in a transfer trough of clear water and were under observation for a period of one month. Controls were also used during the experiments.

Determinations were made several times daily of dissolved oxygen by the Winkler method and of pH by a Heilige Flette Comparator using cresol red and bromthymol blue indicators. The retention period in the hatching trough at the 2.5 gallon per minute flow was 15 minutes, hence the results obtained represent the immediate effects of black liquor not long enough in water to contain decomposition products.

Table I shows mortality and loss or gain in weight of Chinook salmon fry and fingerlings during the various contact and transfer periods. Table II shows physical and chemical determinations in waste and control troughs during experiments.

TABLE I

Showing Mortality and Loss or Gain in Weight of Chinook Salmon Fry and Fingerlings During the Various Contact and Transfer Periods in Waste and Control Troughs.

Waste Trough	1:1000 Dilution	1:3125 Dilution	1:6250 Dilution	1:9375 Dilution	1:10,000 Dilution	1:15,000 Dilution
	Contact	Transfer	Contact	Transfer	Contact	Transfer
Length of Period in Days	1/6	7	30	7	28	14
No. of Fry in Experiment	500	300	100	300	100	300
No. Fingerlings in Experiment	500	300	125	300	100	300
% Mortality of Fry	100	3	2	1.33	0.6	0.3
% Mortality of Fingerlings	100	56.3	17.6	10.6	2.0	0.6
% of Loss or Gain in Wt. of Fingerlings		-7		+8.25	+29.0	-9.8
Control Trough						
Length of Period in Days	1/6	7	30	7	28	14
No. of Fry in Experiment	500	300	100	300	100	300
No. Fingerlings in Experiment	500	300	125	300	100	300
% Mortality of Fry	0	0.3	0.3	0.6	0.6	0.3
% Mortality of Fingerlings	0	0.6	0.6	0.6	0.6	1.0
% of Loss or Gain in Wt. of Fingerlings		+6.2		+10.5	+28.6	+5.1

*Silver Salmon Fry were used in 1:9375 Dilution.

TABLE II

Showing Physical and Chemical Determinations in Waste and Control During the Experiments

Character of Observations	1:1000	1:3125	1:6250	1:9375	1:10,000	1:15,000
	Waste	Control	Waste	Control	Waste	Control
Maximum temp. of Water °C	4.2	4.2	11.0	11.0	10.5	10.5
Minimum temp. of Water	4.2	4.2	9.5	9.5	8.5	8.5
Maximum Dissolved Oxygen P.P.M.	9.7	12.8	10.3	11.2	10.8	11.3
Minimum Dissolved Oxygen P.P.M.	9.7	12.8	9.7	10.8	9.9	10.7
Maximum p. H.	8.6	7.2	8.2	7.2	7.6	7.2
Minimum p. H.	8.6	7.2	8.2	7.2	7.6	7.2



Timken Heavy-Duty Mill Type Quad Bearings 29½" Bore, 46½" outside diameter, 29" width. Capacity 7,000,000 pounds.

Timken Bearings are Licking the Toughest Jobs in Industry—Hence their Vital Necessity in Paper Mill Machinery

Sweeping on and up with an irresistible rush, Timken Bearings soar to greater and greater heights of achievement as they are pitted against the toughest jobs that Industry can produce... upsetting all pre-conceived ideas of production and production costs—revolutionizing anti-friction requirements... brushing aside old theories and traditions to make way for new standards of anti-friction efficiency, economy and endurance.

Terrific pressure loads such as are met in steel rolling mill service—as high as 7,000,000 pounds, are being carried by Timken Bearings in many of the country's largest steel plants.

Hair-breadth accuracy such as is demanded by the finest precision machine tool work is maintained as a matter of regular daily routine.

And thrust and speed and weight and shock—no matter how severe, are handled with equal capability and sureness whether encountered in such widely different types of heavy duty service as automobile operation, paper-mills, transcontinental limited trains, oil field equipment or any kind of machinery.

Wherever wheels and shafts turn, "Timken Bearing Equipped" is the modern symbol of protection and saving.

You need and should demand Timken benefits in jordan engines, pulp shredders, chip screens, driers, paper machines, fourdriniers and all other equipment you buy. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* BEARINGS

When writing THE TIMKEN ROLLER BEARING CO., please mention PACIFIC PULP AND PAPER INDUSTRY.

The Swedish Woodpulp Market

Latest advices indicate a slight pick-up in strong sulphite pulp. The United States and Great Britain each placed orders totalling about 5000 tons for 1930 delivery, the first named price being about \$45 per ton, ex-dock New York. The heavy price reductions in 1930 are attributed not to any great increase in production but to the general world-wide depression. As soon as buyers regain some confidence the long downward price tendency is expected to swing into a rise toward more equitable prices.

Bleached sulphite prices vary widely according to brand, but the price is lowering and not at all satisfactory.

Sulphate pulp is in a bad way. A few thousand tons have been sold for 1931 delivery, but 1930 purchases are in very small parcels and of fill-in nature for prompt shipment. The era of hesitancy is still ruling, but there is some feeling that prices can go no lower without instigating general shutdown. In other words, prices are at, or very near to, the point where it is cheaper to lay idle than operate, all things considered.

Total Swedish exports of wood pulp in July 1930 fell off to 170,503,235 kilograms as compared with 185,847,254 in July 1929. The cumulative January-July seven-month totals show exports of 876,237,450 kilograms in 1930 as compared to 979,932,615 kilograms in 1929.

Some interesting things are seen in the distribution of the Swedish pulp exports for the first seven months of 1929 and 1930. These figures include all grades of pulp. Great Britain reduced its Swedish pulp imports from 261 to 239 million kilos in 1930, France increased its purchase from 109 to 121 kilos, while the United States cut down from 325 to 269 in the same comparative period. These three are the major outlets for Swedish pulp.

Chilean Visitors View Coast Mills

Touring the Pacific Northwest to study various industries, a party of Chilean political and business leaders visited Everett, Washington, as the guests of the Chamber of Commerce in September. Composing the party were Desiderio A. Garcia, assistant secretary of commerce, Chile; Carlos de la Barra, secretary of the Chilean embassy, Washington, D. C.; Francisco Garcia, member of the board of directors of the Bank of Spain, president of two Chilean insurance companies, vice-president of a lumber company and head of a furniture manufacturing concern; and Luis E. Nagle, Seattle consul of Chile.

The men visited the Sumner Iron works, Robinson Manufacturing company, Everett Pulp and Paper company, and the Fishermen's Canning corporation.

The Chileans also toured Tacoma, Seattle, Vancouver and Victoria, B. C., and cities of Eastern Washington.

Chile, the men stated, contains large lumber reserves as yet untouched. The men are inspecting the Northwest especially to view the lumber mills and the paper making concerns in view of developing similar industries in their country.

Fire At Antioch Mill

Spontaneous combustion was blamed for a fire which caused a \$12,000 loss of straw in a pile stored for use by the Fibreboard Products board mill at Antioch, California, in September. The mill has had a series of similar fires striking at intervals in the past several years.

No Immediate Change Contemplated at Floriston

Reports that the Crown Willamette Paper Company plans an early closing and dismantling of its sulphite pulp and paper mill at Floriston, California, were branded as without a basis in fact in a statement by President Louis Bloch to Pacific Pulp and Paper Industry on October 4.

The mill, altho only of 30-ton daily capacity, has been rather frequently in the public print because of its location in the mountainous region of the California-Nevada border and the alleged pollution of waters flowing into Nevada. The company has for some time been conducting investigations into the feasibility of concentrating sulphite waste liquor so as to minimize any possible pollution.

President Bloch pointed out that in the negotiations carried out between the company and the Nevada authorities that the company has until October 1, 1931 to act.

The Floriston mill has not been operating its sulphite pulp mill regularly for some time. It has continued to make paper, but much of its pulp has been coming in from the company's mill on the Northern part of the Coast. President Bloch stated that the mill will continue to manufacture paper, but that it was probable that the pulp mill operations would continue to be limited. The company does not plan to dismantle the sulphite mill.

Permutit Buys Paige and Jones

The Paige and Jones Chemical Company announces that it has sold to The Permutit Company the Zeolite and Lime Soda Water Softening and Filter Departments of its business including machinery, inventories, patterns and drawings relating thereto. It has been manufacturing Zeolite water softening apparatus as licensee under The Permutit Company's patents.

The Permutit Company with its large engineering staff will be in position to furnish repair parts and replacements for Paige-Jones mechanical equipment now in use. The Paige and Jones Chemical Company will continue the chemical branch of its business in which it has held a prominent position for the past 16 years.

Pulp Shipments Grow In Grays Harbor

Value of the pulp and paper industry to the people of Grays Harbor is amply illustrated in August cargo figures announced by the Port of Grays Harbor, Washington. These showed that while the lumbering industry was at a low ebb, the pulp and paper shipments were on a large scale.

The vessels sailing from this port took away 2,708 tons of pulp and paper and this illustrated cargo which until recent months was not on the Grays Harbor shipping list.

Salem Converting Plant Expects Continued Orders

A recent report from the Western Paper Converting Company, Salem, Oregon, operating one of the most diversified paper converting plants on the Pacific Coast, indicates that the company is expecting a continuance of orders which will permit the plant to operate thru the winter months with no reduction in force. Altho a 10 per cent reduction in wages was made some weeks ago, a full crew has been kept on. While still operating under a deficit, the company is improving its financial situation, it is reported.

Initiative Measure No. 1

and

The Lumber Industry

This bill authorizes the creation of light and power districts comprising all or *any part of a county*. Innumerable districts could be formed in western Washington which would be composed largely of standing timber or logging operations. Practically the entire tax levied by such districts would be borne by your industry.

Three commissioners representing a district are authorized, as a new taxing body, to

- 1** LEVY unlimited taxes each year *without a vote of the people* in addition to the taxes you already pay.
- 2** WITHOUT A VOTE OF THE PEOPLE issue unlimited public utility bonds. Also general bonds up to one and one-half per cent of the value of all taxable property within the district.
- 3** INCUR unlimited indebtedness *without a vote of the people*.
- 4** CREATE local improvement districts *without a petition from the people* and assess against the abutting property the entire cost of the poles and wires, whether service is furnished to such property or not.

We earnestly request the lumber and logging industry of Washington to read and study this bill (especially Section 6) that you may determine the effect which it will necessarily have upon your taxes.

PUGET SOUND POWER & LIGHT COMPANY

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Crow
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Colu
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FIRST — LAST — ALWAYS

The best safety device known is a careful man

Pacific Coast Division
Pulp and Paper Section

NATIONAL SAFETY COUNCIL

ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

The Chinese Walls of SAFETY

Altho professing an interest in the work of SAFETY, there is an indication of insincerity on the part of some executives in their willingness to delegate the task in the whole cloth to an outside paid specialist. It is a saving clause to state that such insincerity is often unconscious. But such condition can not entirely excuse. Rather, here is an admission that proper significance is not attached to SAFETY.

SAFETY involves the lives and welfare of human beings. As such it stands above all other duties. It is a subject dealing largely in intangibles, depending not so much for its true productive value on mechanical things as in appeals to the emotions brought out thru stimulating and participating leadership.

This is no argument against the paid SAFETY specialist in charge of one plant or a group of plants. He is doing good work in that he puts the matter of SAFETY on a systematic basis and serves to keep the subject alive. But he is only a tool with which work is done.

Perhaps many executives are under-rating SAFETY work in hiring a SAFETY specialist and then dismissing the matter from personal contact. Would these same executives be willing to hand over the department of accounts, of sales, of maintenance, of operation in the same wholesale manner which so often characterizes the disposition of the SAFETY problem? It is believed not.

The SAFETY engineer needs the sympathetic co-operation of the executive and the benefit of the widest exchange of information possible. While small, localized groups may do good work, it is not believed that they do their best work if they remain purely localized. They neither draw from experiences developed elsewhere, nor, what is equally important, do they contribute to the whole cause of SAFETY that which they might develop. And to be niggardly in dealing with information on which depends human life and welfare is an attitude deserving no commendation.

There is in all this a direct criticism which can be applied to the pulp and paper industry of the Pacific Coast. If we may judge by the attendance figures at SAFETY meetings in other parts of the land, the mutual getting together of SAFETY directors, foremen, and superintendents from regionally grouped mills, and the ready participation in these periodical meetings by the more important executives, the Pacific Coast runs far behind. It is not taking the job seriously, isn't getting full value out of the work it is doing. Perhaps the Pacific Coast is shackling itself by running around inside of a lot of little obsolete Chinese walls.

Chlorine Threatens Four Mill Workers

A leak in a chlorine line threatened four workers in the bleachery of the Crown Willamette Paper Company's mill at Camas, Washington, last month. The men, sniffing the escaping gas, paid no attention for a moment. Then suspecting the real trouble, they escaped to the outdoors. All were near exhaustion upon getting outside and had to be taken to the hospital to recuperate.

Board Mill Worker Injured

An employee of the Pacific Straw Paper & Board Company lost one finger and injured two others badly on a saw at the company's mill at Longview, Washington.

Ready for Business Revival

"We are getting things cleaned up and ready for the coming business revival," says R. J. Gruenberg, San Francisco, president of the Consolidated Paper Box Co.

"There are a dozen rumors around that Consolidated will sell part of its holdings but so far there is nothing definite. Some of those mentioned as possible purchasers think they can use wood for money.

"Consolidated is going ahead. We are running along and paying our debts."

STATEMENT OF ACCIDENT EXPERIENCE—AUGUST, 1930

Mills in State of Washington

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
Grays Harbor Pulp & Paper Co.	75,994	0	0	0	0	1
Inland Empire Paper Co.	66,052	0	0	0	0	2
Fibreboard Products Inc., Port Angeles	37,624	0	0	0	0	3
Pacific Straw Paper & Board Co.	12,720	0	0	0	0	4
Washington Pulp & Paper Corp.	88,227	1	11.34	13	.147	5
Rainier Pulp & Paper Co.	54,400	1	18.4	12	.221	6
St. Regis Kraft Co.	69,228	2	28.9	33	.477	7
Crown Willamette Paper Co., Camas	399,250	12	30.1	667	1.671	8
Everett Pulp & Paper Co.	85,648	3	35.0	33	.385	9
National Paper Products Co.	91,611	7	76.4	71	.775	10
Puget Sound Pulp & Timber Co., Anacortes	24,688	2	81.0	72	2.916	11
Fibreboard Products Inc., Sumner	20,254	2	98.7	5	.247	12
Columbia River Paper Co.	54,614	6	100.9	49	.897	13
Puget Sound Pulp & Timber Co., Bellingham	28,720	3	104.4	64	2.228	14
Longview Fibre Co.	95,759	11	114.9	124	1.295	15
Shaffer Box Co.	7,835	1	127.6	12	1.531	16
Puget Sound Pulp & Timber Co., Everett	71,597	10	139.7	148	2.067	17

The following mills not reporting: Cascade Paper Co.—Not in operation. Tumwater Paper Mills—Not in operation.—Pacific Coast Paper Mills.



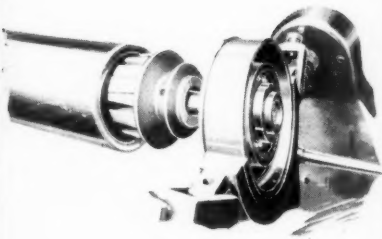
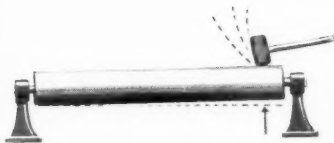
+ EVERETT DIVISION PLANT +

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BLEACHED and UNBLEACHED
SULPHITE PULP

PUGET SOUND PULP & TIMBER CO.
Executive Offices **EVERETT • WASHINGTON •**

When writing to PUGET SOUND PULP & TIMBER Co., please mention PACIFIC PULP AND PAPER INDUSTRY

The A-B-C's of DYNAMIC BALANCE



A is to emphasize the importance of having a roll in balance while turning as well as when it is standing still. How this is done and why it is important is explained in the August "Messenger." Did you get your copy?

B is to suggest the incessant heavy pounding of an out-of-balance roll on the bearings which action is bound to injure or destroy any bearing subjected to such punishment—throwing it out of level and out of parallel.

C is to suggest a roll out of level—where the bearing on one end has given way, allowing the roll to drop down. Pressure on the felt, or on the sheet, is no longer the same clear across the machine when such a condition develops.

D is a view of patented roll head used by The Black-Clawson Company to apply weight exactly, and permanently, where it belongs when balancing rolls while turning (dynamically).

E is the balancing machine itself—the only one of its kind in America in use among builders of paper mill equipment.

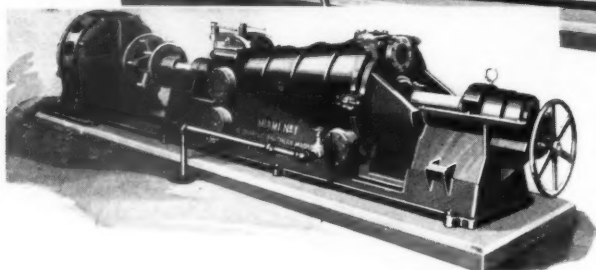
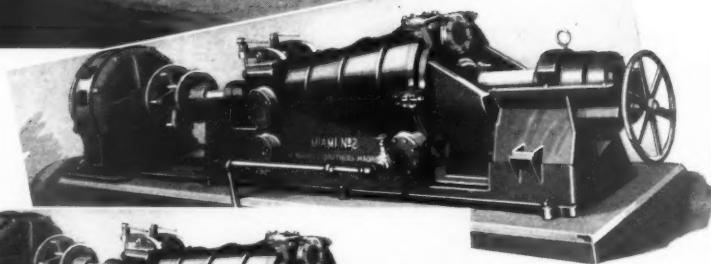
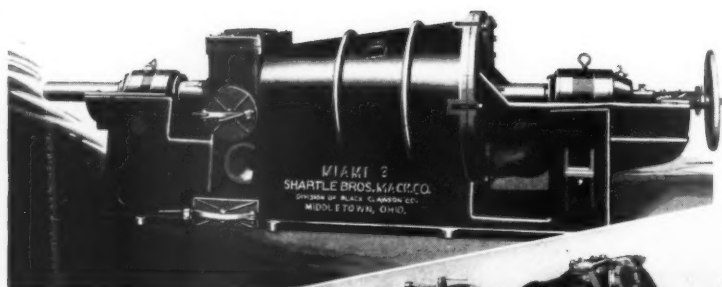
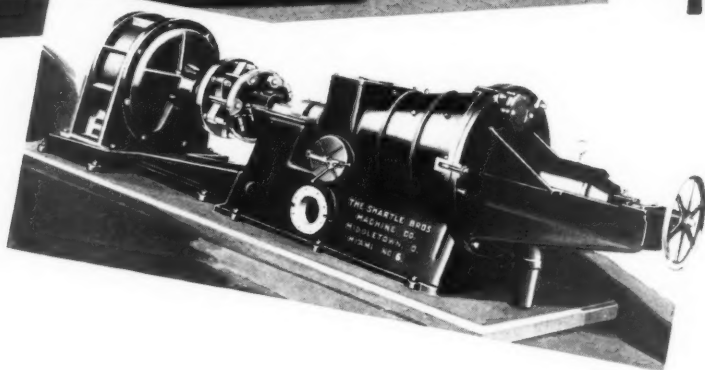
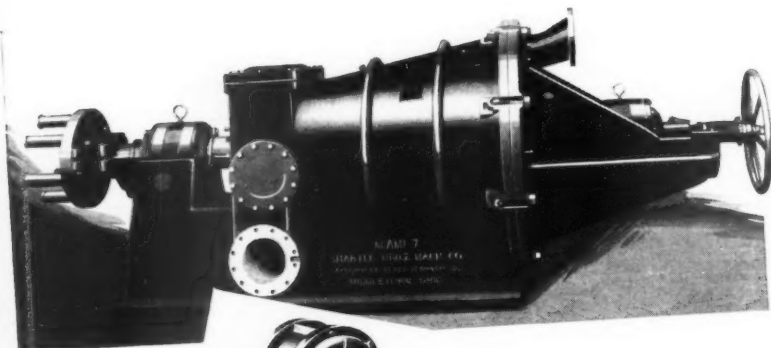
Do not underestimate the importance of having felt, couch, press, table and other rolls in balance while turning. This subject is attaining greater and greater importance every day. Have us tell you more.

THE BLACK-CLAWSON CO.
HAMILTON, OHIO.

EXPORT OFFICE - 15 PARK ROW NEW YORK N.Y.
OWNERS OF SHARTLE BROS. MACHINE CO. MIDDLETOWN, OHIO

THE ONLY BUILDER WITH A COMPLETE LINE

—AND THE
LOGICAL PLACE
TO BUY YOURS



THE NEW No. 7 QUICK TAPER MIAMI

There is a reason for most things. There is a reason why the No. 6 Miami Jordan has jumped from 3% of our jordan production in 1925 to over 80% in 1930.

The mill that ordered twenty No. 6's over the phone last spring, and recently followed up that order with another one for twenty more, could give you a convincing reason for their action.

We are pushing the No. 6 type, which includes the new No. 7, because a quick taper jordan does the job better and cheaper.

Write for list of users.

MIAMI JORDANS

BECAUSE NO ONE JORDAN
CAN MEET ALL REQUIRE-
MENTS, SHARTLE BUILDS FIVE
FROM WHICH TO CHOOSE

SHARTLE BROTHERS MACHINE CO.
MIDDLETOWN, OHIO
DIVISION OF THE BLACK-CLAWSON CO.
HAMILTON, OHIO
EXPORT OFFICE—15 PARK ROW—NEW YORK CITY

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*New Types
New Models
New Machines*

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

*New Dealers
New Branches
Appointments*



HARRY H. STILLWELL

Representing
**ALBANY FELT
COMPANY**
on the
Pacific Coast

Albany Felt Has New Coast Representative

Altho he has been on the Pacific Coast only a short time, Harry H. Stillwell is already an ardent devotee of the Western country. He is now covering the Pacific Coast territory for the Albany Felt Company of Albany, New York, and is giving his entire time to coverage of the growing pulp and paper industry in the Western states.

Mr. Stillwell is a native of Boston. He called on the pulp and paper mills of New England and Canada for many years before coming West. He has had a thorough training in all departments of felt manufacturing before coming to the Coast. Aside from liking the Coast country and its people, he is a firm believer in the future of the industry in the West. He has moved his family to Portland and is making his headquarters in that city at 1211 E. Ankeny Street.

Permutit Continuous Blowoff Systems

The Permutit Company, of New York, has always maintained that the way to avoid troubles in boiler operation is to eliminate the cause rather than to correct an unsatisfactory condition after it occurs.

A new bulletin entitled "Permutit Continuous Blowoff Systems" describes a recent development in the control of concentration of boiler salines. It is the purpose of this booklet to show briefly: that the demand for steam of high quality (free from entrained boiler salines) which eliminates many operating difficulties, has created the need for a simple, automatic means of Boiler Blowoff Control; and how the Permutit Continuous Boiler Blowoff System fulfills this need simply, automatically and economically by controlling the concentration of each individual boiler and by recovering the useful heat contained in the blowoff liquid.

New Allis-Chalmers Motor

Allis-Chalmers Manufacturing Company of Milwaukee, Wisconsin, has issued a new leaflet, No. 2124, describing the Type "ARZ" totally enclosed fan-cooled motor.

Bristol Establishes Pacific Coast Service

The Bristol Company, manufacturers of Bristol's recording instruments, have just completed a repair and service laboratory on an elaborate scale for the convenience of their customers on the Pacific Coast, at 311 Minna Street, San Francisco. This laboratory is up-to-date in every detail, having the latest equipment for testing and checking recording instruments and is equipped to care for all of the various products manufactured by The Bristol Company.

George C. Fairbank, laboratory foreman, has been transferred from the Toronto, Canada, laboratory of the company, where he was stationed for the past eight years. He has been in the employ of the company for 25 years.

The sales office of The Bristol Company will remain at 727 Rialto Building, San Francisco.

The Bristol Company states that increased business in the demand for recording instruments has warranted this installation which will mean quite a saving in time, as the nearest laboratory is at Chicago. It will also prove beneficial to the customer, effecting quite a saving in transportation charges.

New Fidalgo Bulletins

Fidalgo Drying Systems, Inc., New York, have issued two new bulletins, Numbers 310 and 311. The first describes the Sticktite dryer felt seam which has been used to replace the ordinary sewn seam in a number of mills. Advantages claimed for Sticktite are quicker and easier application and the attendant benefits of removing production interruptions. The other bulletin describes the Leahy Chip Screen, used rather extensively in West Coast mills, but comparatively new in Eastern territory.

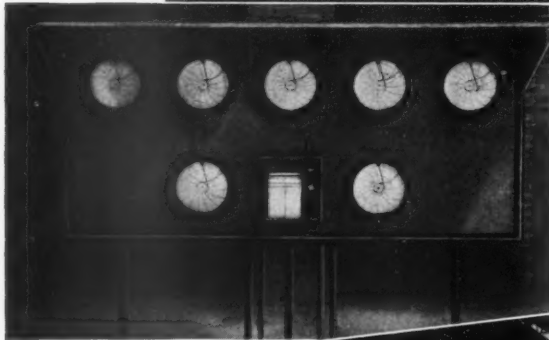
New Brown Instrument Co. Catalog

A new 104-page illustrated catalog featuring Brown indicating, recording and automatic control pyrometers has just been issued by The Brown Instrument Company, Philadelphia. A comprehensive resume of the theory and practice of applied pyrometry is presented, together with descriptions and illustrations of all instruments, thermocouples, protecting tubes and other required equipment.

Brown company has also recently issued another booklet, "The Era of Automatic Control."

Falk Corporation Issues New Bulletin

From the big plant of the Falk Corporation at Milwaukee comes Bulletin No. 230, a useful publication for the engineer and operating man when it comes to the question of parallel shaft speed reducers. The publication tells of Falk's careful manufacturing methods, its extensive stocks that permit quick filling of orders, gives some good advice on selecting units, and contains a wealth of rating tables that the engineer will find useful in his files.



1. Beautiful view of Puget Sound Pulp & Timber Company's new 175 ton sulphite pulp mill, Everett, Wash. 2. Instrument panel in Boiler House showing Brown Electric Flow Meters and Brown Pyrometer. 3. Other Brown Electric Flow Meters in Digester Control Room.

Scientific Operation --- for New P.S.P.&T. Mill

Aggressive enterprise is pushing pulp production in the Northwest. That forward-reaching spirit demands the best in modern mill design and operation.

That means, too, the last word in scientific control instruments.

That's why the Puget Sound Pulp & Timber Company's new Everett, Wash., sulphite pulp mill has all Brown Electric Flow Meters—all recorders, with the wonderful Brown *automatic recording planimeter*. Ask about these flow meters for *your* mill. Get Catalog No. 21.

THE BROWN INSTRUMENT COMPANY

4467 Wayne Ave., Philadelphia, Pa.
Branches in 20 principal cities

"To measure
is to economize"

Brown Electric Flow Meter

on the Inductance Bridge Principle

Printing Is A Big Business

From "Paper-Graphs", interesting monthly folder issued by Marcus Alter of the Commercial Paper Corporation, San Francisco, we are re-introduced to the job printing business in a manner that puts new light on one reason why the paper industry has to keep big wheels turning. Under the caption, "The Unnoticed Giant", we read:

We scarcely realize the magnitude of the industry in which we are engaged, accustomed as we are to see the small, struggling plants with their unattractive fronts and poor locations, and the fierce competition which exists among printers within each community. The conclusion we generally arrive at, when viewing these facts, is that the printing business throughout the country as a whole is small and insignificant and just a sort of poor relation to the giant industries, like the steel and automobile industries.

However this is not the case. No other industry approaches as close to these industrial giants of America as does the printing and publishing business which employs over one-half million men and which had a production total of approximately two billion and seven hundred and fifty million dollars in the year 1929.

We are not attempting to dodge the fact that this figure includes newspaper, magazine and book publishing. The fact is that the job printing business is second in value of its products to that of the newspaper publishing division, which occupies the front rank position for total of income which was \$1,730,000,000 last year and formed 39% of the total printing and publishing income.

As stated above, job printing is next in order as an important factor in the industry with the value of its products running in excess of \$954,000,000, or 19% of the total, while book publishing reached an aggregate of only \$195,000,000, or 7% of the total.

International Cruising Colorado Timber

With the sending out of a timber cruiser to the San Juan and the Rio Grande national forests in Colorado the International Paper Company has taken the first steps toward the cutting of the \$5,500,000 worth of timber for which the company contracted with the government last summer.

Emerson Smith, the cruiser, arrived in Monte Vista on September 18 and started preliminary work preparatory to cutting. His crew consisted of two compass men, a packer, a cook and a timber operator and ten horses. The crew will carry out its work as long as weather permits this fall.

International Paper Company was the successful bidder a few months ago when the government threw open to pulp companies the cutting of surplus timber in these two forests. Considerable interest has been aroused among the towns in the vicinity anent the intentions of the company officials as to the manner of cutting. Keen competition has been engendered between those towns over the possibility of the company building mills on the ground. No announcement as to such building has been forthcoming from the International company.

May Develop Into Pulp Mill

Port Hardy Pulp & Paper Company, Ltd., is said to be planning to build a sawmill at Port Hardy, at the north end of Vancouver Island, to precede establishment of a pulp mill at a later date. Victoria capital is believed to be behind the enterprise.

A New Type Pulp Breaker

E. T. Bellew, plant engineer, and Max Boehm, superintendent, of the Sitka Spruce Pulp & Paper Company at Empire, in the Coos Bay, Oregon, district, have developed a new type pulp breaker. In explanation they say that due to the peculiar construction of the fibres of Western woods, being different and longer and harder to open up in the screen, it was necessary to devise some method of accomplishing this breaking down. A breaker designed, built and installed according to their ideas in the Empire mill makes it possible to screen 50% more pulp than before, they claim. A cleaner and stronger pulp is assured.

The device is a two-drum breaker, fitted with one-inch square steel bars and baffles with a number of light bars in the bed of the machine which prevents the pulp from traveling out of the machine too fast. The slow travel of the pulp causes the machine to work with greater advantage and thoroughness. The bearings used are totally enclosed to avoid oil dropping into the pulp. The machine is roller chain driven.

The pulp breaker is installed between the riffles and the screens. Power consumption is less than 20 HP for 50-ton daily capacity. The device can be taken apart and easily cleaned.

Mr. Bellew has been with the Sitka Spruce mill since the start of construction. Mr. Boehm came to Empire March 15 from Wisconsin, where he had been with the Marathon Paper Mills at Rothschild, and the Interlake Pulp & Paper Company at Appleton.

Paper Products For Cannery Man

J. W. Hendrickson, operating the Sunset Packing Co. at South Bend, Wash., during the 1929 canning season received all his empty cans in paper "Canco carriers" and shipped his finished products out in fibre containers.

"While the flange on the berry or 6/10 cans were somewhat damaged," Mr. Hendrickson writes, "all told there were only a half dozen cans with split flange which could not be straightened and used."

"In addition there was a considerable saving in freight on the empty cans due to the extreme lightness of the paper carriers, and the paper carriers offered an easy problem of disposal under the boilers and required no excessive storage space or return freight such as demanded by the old style wooden carriers."

Mr. Hendrickson offers a criticism of the fibre container for shipping the finished product where goods are shipped without label for labeling and repacking enroute, as this operation cannot be carried out without partial destruction of the original seal. At the same time he points out a principal advantage of the fibre container in the small amount of storage space required and the rapidity with which they can be riveted and sealed. Further, the fibre container effects a saving in freight of 5 lbs. per case of 1 lb. tall cans.

In conclusion Mr. Hendrickson adds, "We have had several packers inspecting the arrival of our cans in paper carriers as well as our handling of fibre containers and we believe coming seasons will see them more universally used than ever."

Seek More Water at Sumner

Fibreboard Products board mill and container plant at Sumner, Washington, entered a bid in September to Sumner city council for more water, offering \$4,000 annually for 1,000,000 gallons daily. Heretofore much of the mill supply has been developed from local wells.



WHAT ARE YOUR REQUIREMENTS?

LARGE OR SMALL—TANK CARS OR SMALL CONTAINERS—HOOKER IS PREPARED TO PROVIDE CHEMICALS ESPECIALLY SUITED FOR YOUR INDIVIDUAL REQUIREMENTS.

THE HIGH QUALITY OF HOOKER PRODUCTS AND THE RELIABILITY OF HOOKER SERVICE ARE RECOGNIZED FACTORS IN MAINTAINING EFFICIENT PRODUCTION OPERATIONS.

HOOKER MANUFACTURING AND RESEARCH FACILITIES ARE AT YOUR SERVICE—BACKED BY 25 YEARS OF EXPERIENCE.

HOOKER ELECTROCHEMICAL COMPANY

EASTERN

PLANT—NIAGARA FALLS, N. Y.

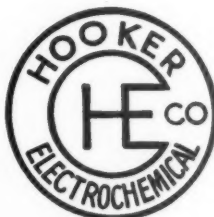
SALES OFFICE: 60 EAST 42ND ST., NEW YORK

WESTERN

PLANT—TACOMA, WASHINGTON

SALES OFFICE: TACOMA, WASHINGTON

CAUSTIC SODA
LIQUID CHLORINE
BLEACHING POWDER
MURIATIC ACID
MONOCHLOROBENZENE
PARADICHLOROBENZENE
BENZOATE OF SODA
BENZOIC ACID
BENZOYL CHLORIDE



BENZYL ALCOHOL
BENZYL CHLORIDE
ANTIMONY TRICHLORIDE
FERRIC CHLORIDE
SULPHUR MONOCHLORIDE
SULPHUR DICHLORIDE
SULPHURYL CHLORIDE
SALT

HOOKER CHEMICALS

When writing to HOOKER ELECTROCHEMICAL Co., please mention PACIFIC PULP AND PAPER INDUSTRY

The Biggest Newsprint Alliance

America's big-time publisher, William Randolph Hearst, has effected an alliance with the newsprint industry by acquiring a 20% interest in Canada Power & Paper Corporation. For the latter group, Frank W. Clarke, recently chosen vice-president of Canada Power & Paper, played an important part. Mr. Clarke has been closely associated with Lord Rothermere, England's famous publisher and largest consumer of newsprint.

J. H. Gundy, president of Canada Power & Paper, conducted principal negotiations with Hearst. The Gundy organization has, in turn, acquired a substantial interest in Dominion Newsprint Company, Ltd., the subsidiary company which has been negotiating for Hearst for acquisition of waterpower and timber in Newfoundland, looking to the establishment of a new paper mill.

With similar announcements affecting Rothermere interests in Great Britain, the new alliance shows great strength, linking two of the world's largest publishers with the world's largest newsprint manufacturing organization, controlling an output of 750,000 tons annually. Canada Power & Paper Corporation controls six modern mills, namely, Belgo-Canadian, St. Maurice, Laurentide, Port Alfred, Wayagamack, and Anglo-Canadian.

Contemplate Bounty On Australian News Print

It is understood that a bill is now being drafted by the Federal Ministry to provide for the payment of a bounty of £4 a ton (long ton of 2,240 pounds) on the manufacture of news print paper in Australia. Approximately £1,250,000 will probably provide for the payment of this bounty over a period of three years. It is further rumored that additional assistance will be given the industry in the form of an extra duty of £1 per ton on importations. The present duty is £4 a ton under the intermediate and general tariffs. News print is admitted at a rate of £1 per ton under the British preferential tariff, which extends to Canada under the treaty between Canada and Australia. Conditions under which the bounty will be paid are that 30,000 tons must be manufactured annually, and if the companies receiving the bounty make a profit of more than 10% there will be a corresponding reduction in the bounty. The Ministry to retain the right to inspect all books and accounts of the companies. As soon as the new industry is in a position to supply substantially Australian requirements, it is understood that the bounty will be discontinued and a further duty imposed. (Assistant Trade Commissioner Herbert P. Van Blarcom, Sydney.)

The Paper and Pulp Industry In July, 1930

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and cooperating organizations, the daily average paper production in July showed a decrease of 8% under June, 1930, and a decrease of 12% under July, 1929. The daily average wood pulp production in July registered a decrease of 18% under June, 1930, and a decrease of 13% under July, 1929.

The July production of newsprint, uncoated book, paperboard, wrapping, bag, writing tissue, hanging and building papers registered a decrease under July, 1929, output. The production of all major grades of paper during the 7-month period ending July, 1930, registered decreases under the totals for the same period of 1929. Shipments of all major grades, excepting hanging paper,

also registered decreases during the 7-month period of 1930 as compared with the same period of 1929.

All grades of paper, excepting writing, tissue and hanging, showed decreases in inventory at the end of July, 1930, as compared with the end of June, 1930. As compared with the end of July, 1929, all grades, excepting paperboard, wrapping and bag papers, showed increases in inventory.

Identical pulp mill reports for the 7-month period ending July, 1930, indicated that 8% more mitscherlich sulphite pulp, 2% more bleached sulphite pulp and 2% more kraft pulp was consumed by reporting mills than for the same period of 1929. The total shipments to outside markets of all grades of pulp during the first 7 months of 1930 were approximately 10% below the total for the same period of 1929.

All grades of pulp, excepting easy bleaching sulphite and mitscherlich sulphite, registered a decrease in inventory at the end of July as compared with the end of June, 1930. As compared with July, 1929, groundwood and soda pulps were the only grades whose inventories registered decreases. The tonnage increase in the other grades, however, was not large.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JULY, 1930

GRADE	Production Tons	Shipments Tons	Stocks on Hand End of Month— Tons
Newsprint	102,840	103,018	29,284
Book (Uncoated)	68,196	68,345	62,839
Paperboard	177,903	179,299	57,583
Wrapping	42,132	45,585	41,695
Bag	12,674	12,912	5,013
Writing, etc.	26,632	26,121	51,784
Tissue	12,312	11,731	12,858
Hanging	4,090	3,400	5,862
Building	4,620	5,381	3,750
Other Grades	17,181	20,205	16,237
Total—All Grades	468,582	476,197	286,905

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JULY, 1930

GRADE	Production Tons	Used During Month—Tons	Shipped During Month—Tons	Stocks on Hand End of Month— Tons
Groundwood	69,201	77,555	1,899	94,245
Sulphite News Grade	31,361	29,768	1,637	7,797
Sulphite Bleached	21,068	20,061	1,432	4,175
Sulphite Easy Bleaching	2,552	2,208	203	1,088
Sulphite Mitscherlich	6,878	6,147	707	1,565
Kraft Pulp	28,022	24,262	4,483	7,214
Soda Pulp	19,666	12,783	6,887	3,440
Pulp—Other Grades	80	—	80	12
Total—All Grades	178,828	172,784	17,328	119,536

St. Helens Earnings

St. Helens Pulp & Paper Company, operating a 60-ton kraft paper mill at St. Helens, Oregon, under the president-general managership of Max Oberdorfer, declared its regular quarterly 2% dividend on the company's \$10 par common payable October 1.

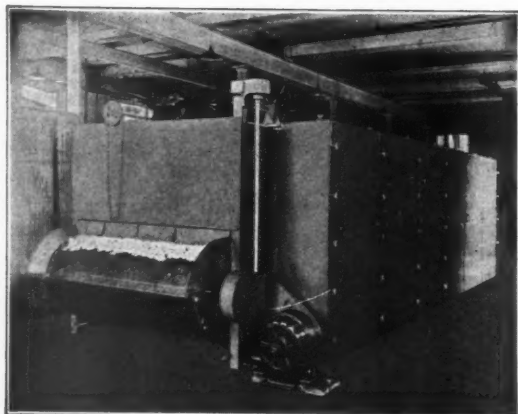
Sales of the stock have stiffened recently from 15½ to close to 20. The company is believed to have a surplus now approximating \$1,000,000. Surplus as of June 30, 1929, was \$759,970. No earnings statements have been made public since.

ANNOUNCEMENT —

Fidalgo Patent Litigation Settlement

Formal notice of the settlement of the litigation in the United States District Court, Seattle, Wash., relating to certain United States and foreign patents relative to the drying of pulp in shredded form, is hereby given to the Trade by the following statement authorized by the Fidalgo Pulp Manufacturing Company, Anacortes, Washington, and the Fidalgo Drying Systems, Inc., New York, New York.

"Arrangements have been completed whereby the Fidalgo Drying Systems, Inc., can now sell drying machinery and apparatus under its own patent and also under licenses granted by Fidalgo Pulp Manufacturing Company of Anacortes, Washington, for the use of any patents owned by them relating to this system of drying pulp."



Fidalgo Pulp Dryer

Investigate our new combination Baling Press which makes it possible in one operation to produce a bale of uniform weight and moisture content.

Also Announcing---

Improved Fidalgo Drying Apparatus

*Latest type fully enclosed low
temperature air.*

Rotary Bark and Hog Fuel Dryer

— FIDALGO PRODUCTS —

FIDALGO DRYERS

Dryer for all grades Shredded or Fluff Pulp.
Dryer for Mill Screenings.
Dryer (Vacuum) for all grades of Shredded or Fluff Pulp.
Dryer for Loft Drying Pulps, Paper and Molded Cellulose Products.
Dryer for Hog Fuel, Waste Wood and Bark.

FIDALGO SHREDDER—
For All Kinds of Pulp.

STOCK CONSISTENCY REGULATOR
—For All Kinds of Stock.

STOCK METERING DEVICES—
For Metering Any Number of Stocks.

STICKTITE DRYER FELT SEAM.

SUPPLY DEPARTMENT

NEWNAP FELT CONDITIONER—
For Conditioning press Felts.

PROMI MISCROSCOPE—
For Fibre Study in Laboratory.

THE LEAHY CHIP SCREEN
WET MACHINES.
BALING PRESSES.

Descriptive Bulletins and Catalog gladly mailed on request.



Fidalgo Drying Systems

INCORPORATED

122 East 42nd Street, New York, N. Y.



Fidalgo Dryer Dispute Settled

President R. D. Kehoe of the Fidalgo Drying Systems, Inc., makes the following statement:

I am glad to announce that the litigation involving the complete control of patents relating to the drying of shredded pulp has been settled and the following statement has been signed for publication by Ossian Anderson, president of the Fidalgo Pulp Manufacturing Company of Anacortes, Washington, and R. D. Kehoe, president of the Fidalgo Drying Systems, Inc., New York City.

"Arrangements have been completed whereby the Fidalgo Drying Systems, Inc., can now sell drying machinery and apparatus under its own patents and also under licenses granted by Fidalgo Pulp Manufacturing Company of Anacortes, Washington, for the use of any patents owned by them relating to this system of drying pulp."

This terminates an action that has been in the courts since 1927 and makes it possible for Fidalgo Drying Systems, Inc., to quote on and construct in the United States, Canada and all foreign countries, apparatus and process for drying of shredded pulp and to offer its customers complete patent protection.

Fidalgo Drying Systems, Inc., are now in position to offer to the trade the benefit of experience and continued research in field of pulp drying. A further development of the art is the new combination baler with which it is possible in one operation to produce a bale of uniform weight and moisture content. Another valuable addition to the art is the continuous vacuum drying of shredded pulp for saving of floor space and where the application requires it.

Our installation at Tacoma, Washington, in the plant of the St. Regis Kraft Company will be modernized to conform with latest experience both in drying and baling.

Scanlon, Powell River President, Dies

M. J. Scanlon, president of Powell River Company and one of the outstanding executives in the pulp and paper and timber industry of the Pacific Northwest, died suddenly at his home in Minneapolis, October 2. He had suffered a stroke a few hours previously.

Mr. Scanlon was elected president of the Powell River Company early this summer following the sudden death of Dr. Dwight Brooks, who had been president of the company for many years.

Only a few weeks ago Mr. Scanlon had returned to Minneapolis after making a trip of inspection to the Powell River mills in company with his wife. He spent about two weeks at the mill town, acquainting himself with the progress being made on the new Lois River power project and other details of the company's \$8,000,000 expansion program.

Japan Paper Industry Depressed

Due to the necessity of competing with Scandinavian newsprint which has been dumped recently at very low prices the large mills in Japan have reduced their newsprint quotations by 20%. This will have a serious effect on the profits made by the mills and the position is reflected in the prices of the mills' shares. Oji Mill has dropped to Yen 69, Fuji to Yen 28 and Kabafuto Kogyo to Yen 9.00 per Yen 50 share.

The general curtailment of output still stands at 40% for newsprint and 20% for other grades. The pulp market is steady, but Kabafuto are endeavoring to liquidate their stocks and are accepting cut prices.

Hawley Earnings

That Hawley Pulp & Paper Company, operating a 210-ton paper mill at Oregon City, Oregon, made \$39,028 net profit during July last, after depreciation, bond interest, Federal taxes, but before preferred stock dividends, is indicated by comparison of operating statements for 7-months period ending July 31 and 8-months period ending August 31.

For the 8-months period, Blyth & Co., financial house, released the following operating statement:

Total income, after depreciation.....	\$447,895
Interest on 1st mortgage bonds.....	99,130
Balance after interest.....	348,765
Net applicable to preferred dividends.....	221,243
Dividends 1st \$7 preferred stock.....	93,333

Bond interest (on \$2,396,500 outstanding as of Aug. 31) was earned 4.5 times during period; preferred stock dividends were earned 2.3 times during period.

Since net income after depreciation, interest and taxes for the 7-months period ending July 31 had previously been announced to be \$182,215, it is evident that July's operations produced \$39,028 applicable to preferred stock dividends and surplus. One month's dividend requirements on Hawley's 20,000 shares of \$7 1st preferred stock is approximately \$11,666.

J. D. Zellerbach Has New Yacht

There's a new yacht in San Francisco boating circles now that J. D. Zellerbach, executive vice-president of the Crown Zellerbach Corporation, has taken delivery on a new 143-foot private pleasure yacht.

While East recently Mr. Zellerbach made an initial cruise on the "Janidore", as the new craft is named, from Montreal to Quebec on the St. Lawrence River. He then proceeded overland to Newport, R. I., to witness the international yacht races, while the "Janidore" proceeded around Nova Scotia to Newport.

The big yacht is reported to be an excellent piece of marine workmanship. It was built at Bay City, Michigan, and launched on August 9. It is fitted with two 350 h.p. Diesel engines, has a cruising radius of 5000 miles, and develops a speed of 14 knots.

Taking Timber Inventory of National Forests

In connection with the Forest Survey of the Douglas fir region being made by the Pacific Northwest Forest Experiment Station of the Forest Service, work is well under way on ten of the twelve national forests in this region, reports Thornton T. Munger, Director of the station.

In the Douglas fir region of western Oregon and western Washington there are about ten million acres of national forest land and the project of making a complete economic survey of the various resources of the region contemplates covering the national forests as well as private and other lands. On each national forest one or more men are assigned to the duty of making this inventory which, it is expected, will take about two years to complete.

Addition to Timber Survey Staff

Percy N. Pratt has joined the Pacific Northwest Forest Experiment Station to serve as a timber cruiser in checking and adjusting the timber estimates that are being compiled in connection with the Forest Survey of the Douglas fir region. Mr. Pratt has had 22 years' experience as lumber grader, scaler, cruiser, and logging superintendent, and has in recent years been with the Western Timber Company and with Pearson, Grady & Company, of Portland.

Sitka Spruce Mill Asks Rail Extension

President C. McC. Johnson of the Sitka Spruce Pulp & Paper Company, 50-ton sulphite pulp mill completed a year ago, asked and received the support of the North Bend, Oregon, chamber of commerce, in September, in a petition to the Southern Pacific Railway to extend its lines from North Bend to the pulp mill. The Sitka Spruce mill is situated on tidewater near Empire on Coos Bay, central Oregon Coast.

News Print Production—August, 1930

The News Print Service Bureau's Bulletin No. 152 shows production in Canada during August, 1930, amounted to 202,043 tons and shipments to 197,870 tons. Production in the United States was 101,601 tons and shipments 99,236 tons, making a total United States and Canadian news print production of 303,644 tons and shipments of 297,106 tons. During August, 24,663 tons of news print were made in Newfoundland and 862 tons in Mexico, so that the total North American production for the month amounted to 329,169 tons.

The Canadian mills produced 64,146 tons less in the first eight months of 1930 than in the first eight months of 1929, which was a decrease of 4%. The United States output was 39,629 tons or 4% less than for the first eight months of 1929. Production in Newfoundland was 22,589 tons or 13% more in the first eight

months of 1930 than in 1929 and in Mexico 3,059 tons less, making a total decrease of 84,245 tons or 3%.

During August the Canadian mills operated at 66.4% of rated capacity, United States mills at 72.0% and Newfoundland mills at 103.0%. Stock of news print paper at Canadian mills totaled 59,007 tons at the end of August and at United States mills 30,691 tons, making a combined total of 89,698 tons which was equivalent to 5.2 days' average production.

NORTH AMERICAN PRODUCTION

		Newfoundland				
		Canada	U. S.	foundland	Mexico	Total
1930—August		202,043	101,601	24,663	862	329,169
Eight Months		1,702,070	890,540	190,241	9,667	2,792,518
1929—Eight Months		1,766,216	930,169	167,652	12,726	2,876,763
1928—Eight Months		1,546,167	944,781	151,882	10,751	2,653,581
1927—Eight Months		1,340,234	1,021,037	133,476	9,669	2,504,416
1926—Eight Months		1,219,335	1,123,658	117,065	8,227	2,468,285
1925—Eight Months		990,343	1,005,842	49,563	8,589	2,054,337
1924—Eight Months		907,693	991,523	43,439	7,664	1,950,319
1923—Eight Months		840,875	1,014,811	42,872	8,000	1,906,558

Waste Paper Dealers Organize

The Waste Paper Institute, a national organization of dealers and packers of waste paper, was organized at a meeting of the industry September 10, in Chicago, with 95% of the firms represented signing up as members. The executive committee was authorized to apply to the Federal Trade Commission for a Trade Practice Conference of the industry, at which time a Code of Business Practices will be submitted by the industry to the Commission.

IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES AND CUSTOMS DISTRICTS

Period June 18-30, 1930

Compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

COUNTRIES—	PULP WOOD				PULP WOOD				PULP WOOD			
	Rough	Rough	Other	Other	Rough	Rough	Other	Other	Rough	Rough	Other	Other
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
Canada	9,186	104,561	1,490	8,551	24,118	307,387	6,596	61,045	193	2,439	—	—
Newfoundland and Labrador	—	—	—	—	2,995	35,945	—	—	—	—	—	—
Total	9,186	104,561	1,490	8,551	27,113	343,332	6,596	61,045	193	2,439	—	—

Total Pulp Wood Imports, period June 18 to 30, 1930—44,378 cords; \$519,928.

COUNTRIES—	WOOD PULP				WOOD PULP				WOOD PULP				WOOD PULP			
	Mechanically	Mechanically	Ground	Ground	Chemical	Chemical	Chemical	Chemical	Chemical	Chemical	Soda Pulp,	Soda Pulp,	Chemical	Chemical	Soda Pulp,	Soda Pulp,
	Unbleached	Unbleached	Bleached	Bleached	Unbleached	Unbleached	Bleached	Bleached	Unbleached	Unbleached	Unbleached	Unbleached	Unbleached	Unbleached	Unbleached	Unbleached
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
Czechoslovakia	—	—	25	745	867	46,700	2,322	112,854	25	973	—	—	—	—	—	—
Finland	—	—	—	—	224	9,716	451	32,493	505	32,752	180	17,089	29	1,680	—	—
Germany	526	14,125	100	2,812	771	47,034	855	62,403	369	15,730	—	—	—	—	—	—
Norway	—	—	—	—	398	21,916	824	49,380	—	—	—	—	—	—	—	—
Poland and Danzig	—	—	—	—	245	9,807	—	—	—	—	—	—	—	—	—	—
Sweden	25	725	—	—	10,957	589,285	859	49,305	6,861	331,456	475	24,410	—	—	—	—
Yugoslavia and Albania	—	—	—	—	497	21,507	—	—	—	—	—	—	—	—	—	—
Canada	5,395	158,003	52	1,426	4,677	224,645	6,022	437,672	1,263	71,561	232	21,355	252	16,992	—	—
Total	5,946	172,853	177	4,983	18,412	960,894	11,081	722,638	8,518	419,720	707	45,765	252	16,992	—	—

Total Imports of All Grades of Pulp, period June 18 to 30, 1930—45,093 tons; \$2,343,845.

Canadian Exports of Pulp and Paper August, 1930

Pulp and paper exports from Canada in August were valued at \$12,700,337, according to a report issued by the Canadian Pulp and Paper Association. This was a drop of \$2,208,000 from the previous month's total and was \$4,700,000 below the total for August, 1929.

Wood-pulp exports for the month were valued at \$2,539,680 and exports of paper at \$10,160,657 as against \$2,988,267 and \$11,920,019 respectively in the month of July.

For the various grades of pulp and paper details are as follows:

	August, 1930		August, 1929	
	Tons	Dollars	Tons	Dollars
PULP—				
Mechanical	18,826	355,796	19,606	357,646
Sulphite Bleached	16,058	1,141,310	25,989	1,904,507
Sulphite Unbleached	9,411	478,847	19,791	966,315
Sulphate	4,927	284,086	13,265	767,921
Screenings	1,078	21,126	4,560	75,458
All Other	763	58,515		
	51,063	2,539,680	83,211	4,272,047
PAPER—				
Newspaper	170,107	9,822,775	217,638	12,659,566
Wrapping	939	92,833	1,474	161,717
Book (cwt.)	2,243	23,097	6,695	54,818
Writing (cwt.)	23	692		5,881
All Other		221,606		295,198
		10,160,657		13,177,180

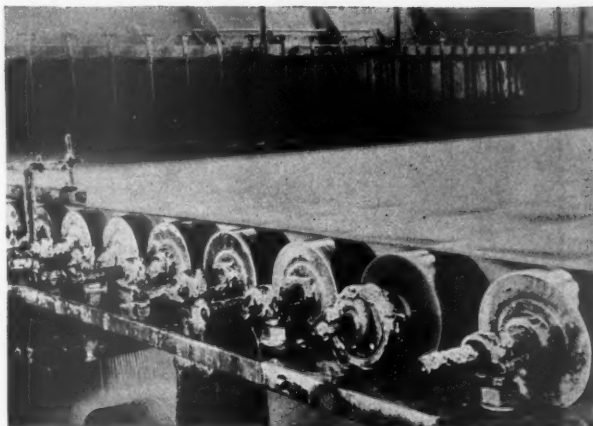
For the first eight months of the year the exports of pulp and paper were valued at \$119,117,190. In the corresponding months of 1929 the value was \$130,033,538, so that there has been a decline this year of \$10,916,348, or a little over 8 per cent.

Wood-pulp exports for the eight months amounted to \$26,851,657 and exports of paper to \$92,265,533 as compared with \$28,869,844 and \$101,163,694 respectively in the corresponding months of 1929.

Details for the various grades are given below:

	Eight Months, 1930		Eight Months, 1929	
	Tons	Dollars	Tons	Dollars
PULP—				
Mechanical	124,208	3,611,302	128,438	3,525,118
Sulphite Bleached	170,524	12,554,270	173,781	13,183,095
Sulphite Unbleached	132,374	6,398,825	126,852	6,276,353
Sulphate	61,371	3,566,077	92,235	5,459,557
All Other	19,091	521,183	24,005	425,721
	507,568	26,851,657	545,329	28,869,844
PAPER—				
Newspaper	1,536,771	88,701,600	1,627,631	97,074,303
Wrapping	9,361	976,949	10,202	1,105,170
Book (cwt.)	26,572	251,101	50,324	427,167
Writing (cwt.)	2,015	17,426	3,806	34,309
All Other		2,318,457		2,522,745
		92,265,533		101,163,694

Pulpwood exports have been larger this year, the shipments for the first eight months amounting to 957,496 cords valued at \$9,698,863 as compared with 933,297 cords valued at \$9,340,714 in the eight months of 1929.



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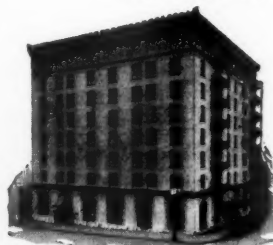
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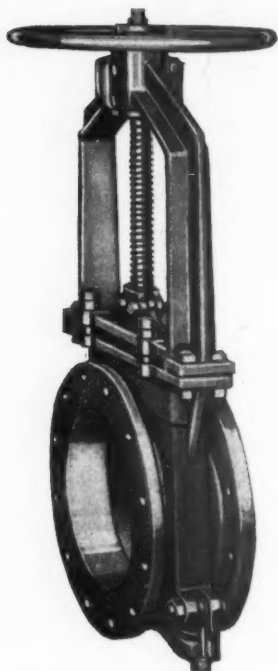
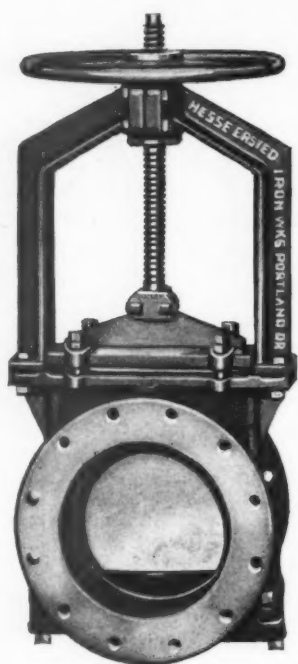
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